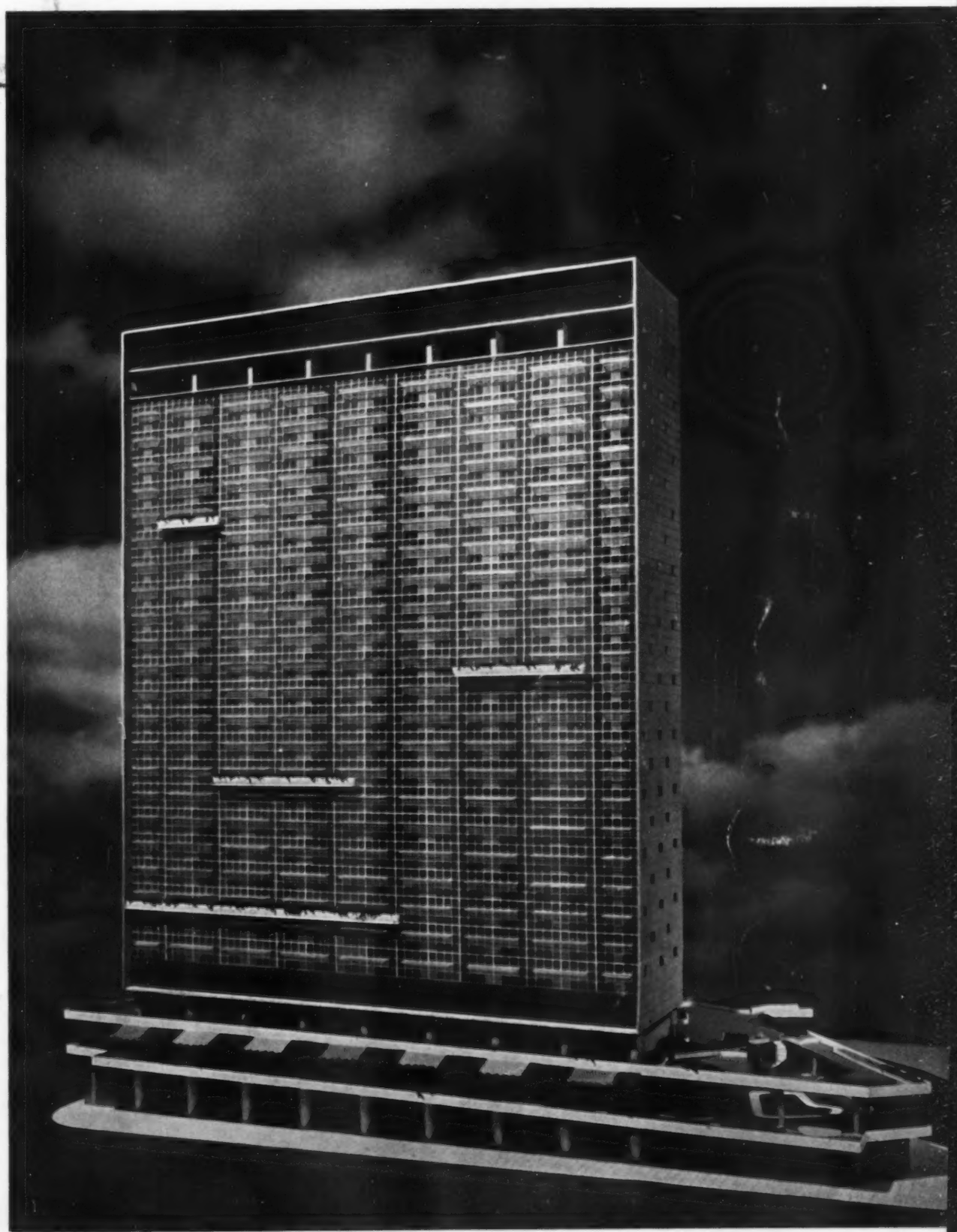
ARCHITECTURAL RECORD

BUILDING TYPES STUDY NUMBER 203

SHOPPING CENTERS

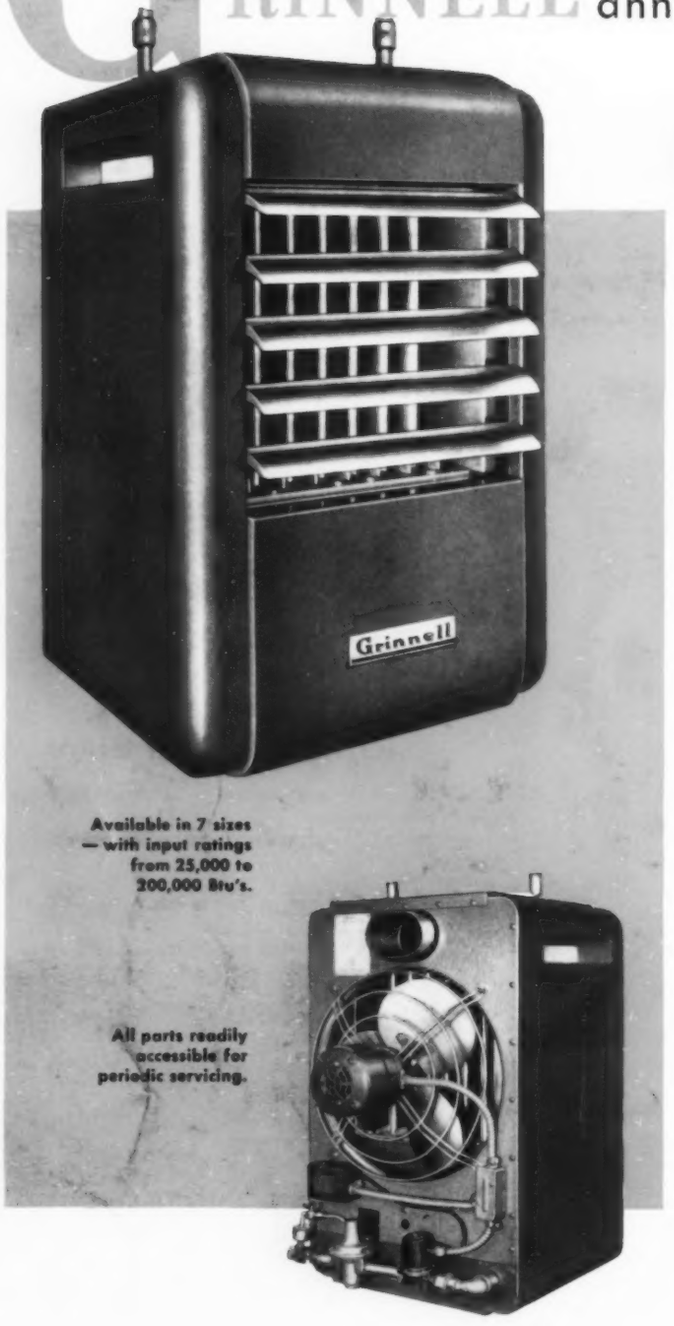


OCTOBER 1953

Hotel Copan, São Paulo, Brazil
Henrique E. Mindlin, Architect
Holabird & Root & Burgee, Associate Architects

GRINNELL announces its new line of

GAS-FIRED UNIT HEATERS



Available in 7 sizes — with input ratings from 25,000 to 200,000 Btu's.

All parts readily accessible for periodic servicing.

AUTOMATIC! EFFICIENT! ASSURE YEARS OF DEPENDABLE SERVICE

Grinnell gas-fired unit heaters are easy to install, simple to operate and maintain. Efficient performance assured — with any type of gas — by modern design of burners and heat exchanger, proper motor and fan unit.

Automatic safety pilot operates to shut off main gas supply if pilot burner goes out. Flashback and extinction noise prevented by the burners' raised port design and proper port size for the gas used. Low speed motors have built-in thermal overload protection and automatic reset.

Additional features of Grinnell *gas-fired* unit heaters . . .

- Casing die-formed of heavy steel, with baked-on enamel finish
- Heat exchanger tubes and draft diverter of aluminized steel
- Combustion chamber of heavy steel, welded
- Burners of close-grained iron castings
- Adjustable louvers
- Burners and control assembly removable as a unit
- Hinged bottom pan permits cleaning interior of tubes
- Threaded pipe hangers for easy suspension
- Only wiring required is connection to room thermostat or manual switch
- Approved by the American Gas Association

WRITE FOR CATALOG

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UNIT HEATERS FOR STEAM, HOT WATER, GAS

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Thermolier unit heaters • Grinnell-Saunders diaphragm valves • prefabricated piping • Grinnell automatic fire protection systems

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ARCHITECTURAL RECORD

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COVER

Photograph of Hotel Copan, São Paulo, Brazil; Henrique E. Mindlin, Architect, Holabird and Root and Burgee, Associate Architects. Photograph by Bill Hedrich, Hedrich-Blessing.

CHEM-O-GLAS

NEW SHATTERPROOF TRANSLUCENT REINFORCED GLASS-FIBER BUILDING PANELS FOR STRUCTURAL AND DECORATIVE USES WITH EXCLUSIVE, DISTINCTIVE RIBBED DESIGN SO EASY TO INSTALL.

See the new shades — "FROSTED GREEN" and "COPPERGLO" — especially created for patio use where glare and heat are undesirable. Give restful, glare-free light. Heat rays screened out by exclusive new Chem-O-Filter Compound "XO." Also in natural blonde and marbled yellow. Colorful. Colorfast. Virtually indestructible.

CHEM-O-GLAS UPS SALES — Outdoor showroom of J. A. Eisele Sales, Inc., one of west coast's largest Lincoln-Mercury dealers, showing utilization of CHEM-O-GLAS ribbed structural panels as roofing for structural steel carports.

CHEM-O-GLAS (pronounced Kem-O-Glass) is precision molded in 8' lengths, 32⅞" wide, (32" wide from c/c of outside ribs when overlapped.) Some jobber-dealer territories still open.

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THE RECORD REPORTS

PERSPECTIVES

Answer, echoes, answer: Across the sea in England *The Architects' Journal's* anonymous columnist "Astragal" took his own editors to task for suggesting in their editorial on a speech by Lewis Mumford that "tolerance" of "contemporary clichés" had "gone on long enough" and "Mumford's talk is the signal for a purge within the ranks of so-called modern architecture" — a pair of conclusions which must have horrified Mr. Mumford, whose talk had taken no such slant. Thus Astragal: "Let's have no talk, please, about decreasing tolerance — the very word reeks of witch-hunting. Who are to be the unpurged élite, and who is there objective enough or imprudent enough to choose them? Of course there are plenty of second-rate architects — there always have been; and of course much so-called modern architecture is no more than an assembly of clichés — so it has always been in any period. Could we not — just for a moment — remember that all bad design is no more than imitation good design, and that those who fail in their attempts are not necessarily scheming blackguards, deviationists, imperialistic hyenas, etc., nibbling away at the foundations of 'True Architecture,' but merely the fumblers and the purblind?"

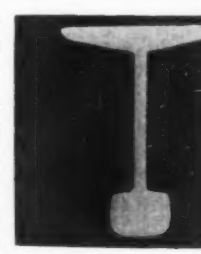
The "contemporary cliché" has been the subject of honest concern on both sides of the Atlantic. Minoru Yamasaki, addressing the Detroit Chapter of the A.I.A. some months ago, had this to say: "With overemphasis on esthetics we tend to do exactly what we have been criticizing our predecessors for doing; that is to start with a particularly desired form and stuff the functions into it naturally or unnaturally. Whether the form is a Greek temple or a clean glass box, the error is deliberate and unworthy. Unfortunately, many of our more beautiful modern buildings are guilty of this sin. We have another regrettable inheritance from our predecessors, and that is the habit of promiscuous monumentality. Monumentality was the universal prescription for everything from banks to fire stations to garages by the architects of our fake-classic era and we seem to be having difficulty completely eradicating the disease."

Who is Frank Lloyd Wright? The answer would have been worth $1600 to a young couple on a recent television quiz program. *Would have been,* public relations experts please note: they didn't know.

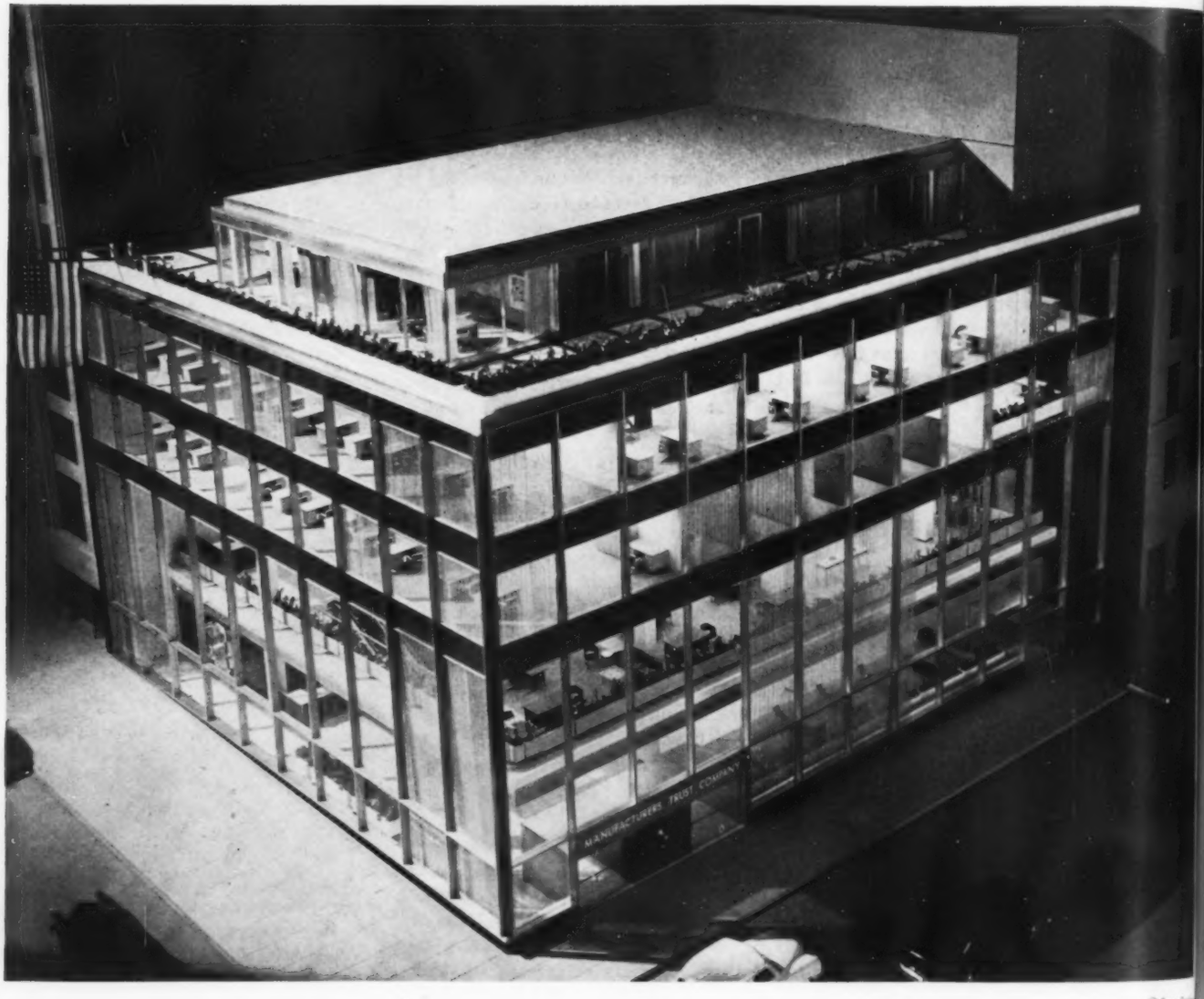
It's 100 years since the founder of the Otis Elevator Company was riding up and down (see cut below) in his elevator at the Crystal Palace Exposition in New York and "occasionally cutting the rope," as *The New York Times* reported, to convince a dubious public that his automatic safety device really worked. And the company last month marked the 100th anniversary of Elisha Graves Otis' first sales — two "safety" freight elevators, hoist-type; price, $300 each.

U. S. architectural schools don't know anything about each other, says Schlomo Sha'ag. Sha'ag, who is about to set up and head the first architecture department of the Israel Institute of Technology at Haifa, is preparing himself with a 12-month tour of established architectural schools — and his trek through this country, where he visited 23 schools, convinced him that some system of communication between educators is a crying need. He saw two influences, and two only, reflected in American architecture — Wright and Mies. New York's Lever House and the United Nations Headquarters were by all odds the outstanding buildings — the U. N., he said, is THE BUILDING; none in the world to compare. It was Sha'ag's first visit to the U. S. He was going from here to England and then to France, Italy and Germany before returning to Israel. Sha'ag has been until now a practicing architect and president of the Israeli Architects Association.

Structural milestone: The first wrought iron structural beams ever rolled in America (shadowgraph shows cross-section of one) were fabricated 100 years ago for New York's Cooper Union, which celebrated the 100th anniversary of its cornerstone ceremony last month. The beams, 20 ft long and 7 in. deep, were made in specially-designed rolling mills at Trenton Iron Works at the instance of Founder Peter Cooper, who felt he could not afford the expense of the typical stone structure for his six-story building. The first beams, however, were sold off the building site — at a neat profit — to Harper and Brothers, the publishers; and a second batch was sold in the same way to the U. S. Assay Office in New York. On the third try, in 1857, Cooper Union got its own beams and it is now — its two predecessors having been destroyed — the oldest building in the United States supported by rolled structural beams. Cooper Union had two other structural "firsts": it was the first building to include an elevator shaft in the original plans and it had a fan and duct-system for ventilating its Great Hall. Both are still in use.



1954 BUILDING NEWS: A GLASS BANK AN



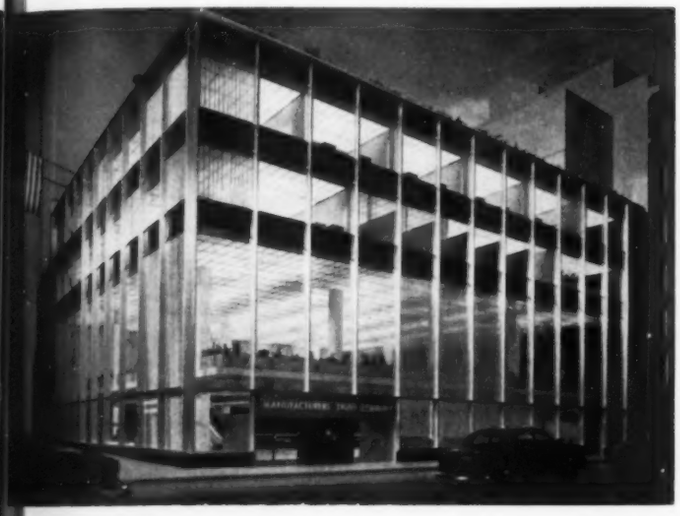
THE THREE PROJECTS shown on these pages are sure to make major construction news in 1954 — one because it is a major departure in bank design for the nation's financial capital; another because it is New York's biggest commercial building project since Rockefeller Center; and the third for at least two reasons — as a tall building on a 120-acre site and as a bow by the Ford Motor Company to public relations values in architecture. All three projects will be well under way by next year; the bank is to be completed by mid-1954, the other two buildings in 1955.

The bank is not the first glass bank; but it is the first in New York and it reflects a growing consciousness in the most conservative quarters that — to quote Manufacturers Trust President Horace C. Flanigan — "banking today is selling a service, and is to a great extent comparable with department stores and specialty shops where the aim is to provide inviting quarters and an attractive atmosphere as well as to sell quality merchandise." The bank will have no entrance on Fifth Avenue. The main entrance will be on Forty-third Street and the Fifth Avenue Façade will be a 100-ft expanse of glass interrupted only by the thin aluminum mullions of the structure. Prominent in the view of passersby will be the bank's safety deposit vault. The building is expected to cost $3 million.

The 42-story office building, to cost $45–50 million, is the first of several office projects planned in major American cities by John Galbreath and Associates. The New York building, which takes its name from its principal tenant, will be erected on land leased from the Goelet estate.

The Ford project revives with some modifications plans first announced in 1950 and then postponed because of the Korean emergency.

AN TWO NEW OFFICE BUILDINGS



© Ezra Stoller

Above: "Socony-Vacuum Building," New York's biggest commercial project since Rockefeller Center, will go up at Lexington and Third, Forty-first and Forty-second streets. Architects: Harrison & Abramowitz; John Peterkin, associate

Across-page and top left: Skidmore, Owings & Merrill have designed glass and aluminum box for Manufacturers Trust Company, Fifth Avenue and Forty-third Street, New York City. At left: the bank's present quarters just across Fifth

Below: also a Skidmore, Owings & Merrill project is the 12-story administration building to be erected for Ford Motor Company on a 120-acre site in Dearborn, Mich. Three-story annex at left will provide parking and dining space

Above: Hotel Victoria Plaza, Montevideo, Uruguay, opened December 1952; 400 rooms; cost $5 million; collaborating architect, Frederico Perralta Ramos. Below: Hotel Tequendama, Bogota, Colombia, opened May 1953; 400 rooms; cost $8.75 million; collaborating architect, Cuellar, Serrano, Gomez and Company

Above: Hotel de Lago, Maracaibo, Venezuela, opened August 1953; 150 rooms; cost $3 million; Holabird & Root & Burgee had no associate. Below: Hotel Tamanaco, Caracas, Venezuela, opening this month; 400 rooms; cost $7.12 million; collaborating architect, Gustavo Guinand

INTERCONTINENTAL HOTELS: DESIGN FOR TOURISM

INTERCONTINENTAL HOTELS Corporation is one organization that probably rates the overworked adjective "unique." Founded in 1945 as a wholly-owned subsidiary of Pan American World Airways, I.H.C. has been responsible for financing, planning, design and construction of the four hotels shown on this page; it has a fifth, the Hotel Copan in Sao Paulo, Brazil (see pages 135–142) under way, and a sixth, as yet unnamed, under contract in Tokyo; and it manages five others.

The key to I.H.C. activities is a financing arrangement worked out through the efforts of the United States Government, which wished to encourage international tourism and recognized lack of hotel facilities in many parts of the world as a major barrier. The Export-Import Bank of Washington, D. C., agreed to make available, to groups in Latin American countries in particular and other countries in general, long-term loans to assist in financing hotel construction. I.H.C. finds local sponsorship for each new hotel project and then acts as agent for securing of necessary loans and credits in the United States. Although local products are used where possible, the larger part of materials and equipment required is not available locally; and it is estimated that well over half the funds expended for these items, including interior furnishings, is spent in this country.

New Tourists, New Hotels

The international tourist of today and tomorrow is the specific target of the I.H.C. program; and design of the hotels is carefully geared to I.H.C.'s concept of the "new tourist": a middle-income American whose regard for comfort and mechanical conveniences that work far outweighs his reverence for hand-carved furniture and crystal chandeliers.

Prelude to Planning

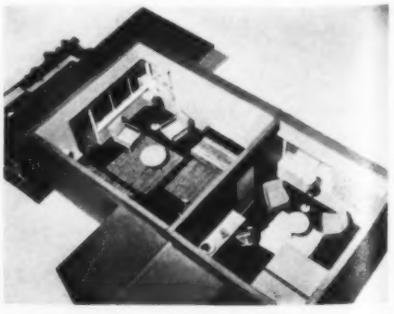
I.H.C. decides to build a new hotel only after a team of architects, engineers and men thoroughly versed in the operations side of hotel management has made a detailed, on-the-ground survey, including types of architecture, sales possibilities both as to food and rooms, climate and possible local trade.

Evolving the Design

I.H.C. architecture, for which Holabird & Root & Burgee and Associates of Chicago, as consulting architects on all I.H.C. projects, are mainly responsible, is the product of a painstaking application of that favorite maxim of the contemporary idiom — how often honored in the breach only its detractors like to say — designing "from the inside out." Design begins in fact with the selection of furniture for a single-unit guest room. After the requirements of furniture and equipment are determined, miniature scale furniture is built and moved around on a scale plan. Next miniature rooms are built and finally a full-scale mockup is constructed of plywood panels and temporary fasteners — a method which makes it possible to expand the walls while different layouts are tried. Suites and finally complete floor plans are developed with the unit rooms as a basis.

In the design of I.H.C. kitchens, the "inside" starts with the menu — types and quantities of food which will be required are estimated on the basis of a detailed survey of the hotel's potential customers, native, transient and tourist, and a typical week's menus are prepared. These are studied to determine the type and quantity of kitchen equipment needed and from this information space requirements are calculated.

Holabird & Root & Burgee work with I.H.C. staff architects and engineers and usually with a local collaborating architect. Contractors of any country can and do bid on the construction. Under a separate agreement I.H.C. will act as purchasing agent; and under a separate operating agreement I.H.C. manages the completed hotel.



Typical miniature model of a single-unit guest room complete with exact replicas to scale of all furniture to be used: early step in the design of every hotel as I.H.C. develops it

Architects Are Meeting

THE SEASON OF MEETINGS is on and a glance at the October calendar suggests that more architects may be called to order this month than in any other month of the year. There are three regional conferences of the American Institute of Architects — the Northwest, at Sun Valley, October 9–11; the Central States, at Des Moines, October 15–17; and the Middle Atlantic, in Washington, October 21–23. Also on the schedule are meetings of architects' state organizations in New York, Ohio and California. Two of the programs look especially interesting — the Middle Atlantic with its "Urban Design and Redevelopment" effort and the Central States, which has "That Human Being Called the Client" as its theme.

Ships Designed for Sailors

THE U. S. NAVY is testing a new theory that more comfortable sailors make better sailors. Its rejuvenated 2200-ton destroyer *Meredith*, which goes on view at the Naval Gun Factory in Washington this month, is described as a "guinea pig" designed to demonstrate that "the fighting efficiency of a Navy ship actually is increased by improving her 'habitability.'" The Navy's "habitability" program began in 1951 with a survey of some 200 ships of all types in the Atlantic fleet, with civilian designers Henry Dreyfuss, Raymond Loewy and Lippincott & Margulies helping the Navy planners to the official conclusion that "living conditions aboard Navy war vessels are definitely and without qualification in need of improvement." The *Meredith* was selected as the prototype for improvements to existing ships and Dreyfuss became consultant on redesign of her living spaces. New ships may give "the human element" (in the Navy's own phrase) an even better break — if the *Meredith's* sailors come through.

The Move to the Country

OUR LARGER CITIES are not being decentralized and there is no indication that they will be, according to the Urban Land Institute. Fringe developments? — "principally urban growth which has been freed from limitations of location and distance formerly dictated by the streetcar line, the horsedrawn carriage and the physical endurance of human legs."

Solar Energy: How Soon?

FIFTY SCIENTISTS gathered for a conference on solar energy last month heard a prediction that all usable supplies of coal, gas and oil will be exhausted by 2023 and usable supplies of uranium and thorium, sources of atomic energy, by 2198. Harnessing energy from the sun would then be man's only resource for heat and power, they were told. There were no predictions, however, as to when solar power might be expected to be captured on a commercially usable scale. The solar-heated house at Dover, Mass. (ARCHITECTURAL RECORD, March 1949, pp. 136–137), was cited as an example of direct capture of solar heat on a small scale; but Dr. Maria Telkes of New York University, its director, also pointed out that the solar-heated house is not yet commercially feasible.

— Drawn for the RECORD by Alan Dunn

"Dinner will be slightly delayed — jammed partition —"

Hudnut Goes to Colby

JOSEPH V. HUDNUT, the retired dean of Harvard's Graduate School of Design, has been appointed to the Whitney Visiting Professors Program for 1953–54 and will be a guest professor at Colby College, Waterville, Me., for this year. The Whitney program is jointly sponsored by the New York Foundation and the John Hay Whitney Foundation.

What Kind of Church?

FOUR ARCHITECTS will participate in a symposium "Contemporary vs. Traditional in Church Architecture" to be held as part of the second annual International Churchman's Exposition October 6–9 in the Chicago Coliseum. The architects: Albert F. Heino, F. J. Dittrich, Ralph Stoetzel and C. W. Marshall. In the exposition's "Hall of Church Designs" over 100 panels, plus several models, will comprise the architectural exhibit.

Home Builders' Show

THE National Association of Home Builders has announced it will hold its tenth annual convention January 17–21 at the Conrad Hilton and Sherman hotels in Chicago.

How Much Remodeling?

EXPENDITURES in 1954 for alterations, repairs and maintenance of existing buildings may reach $6.5 billion, according to a recent prediction by the United States Chamber of Commerce. This figure is expected for residential building alone, and the Chamber believes prospects for a big volume of commercial remodeling are also strong.

Prefabrication Research

A NEW ENGINEERING, Design and Research Committee headed by Richard B. Pollman of Detroit has been named to lead a major research program in the

(*Continued on page 16*)

field of house prefabrication for the Prefabricated Home Manufacturers' Institute of Washington, D. C. The committee's major functions will include improvements in home design and planning "for better family living," and a complete study of technical advances in manufacturing, distribution and construction for better values in prefabricated homes. The committee also will work to establish engineering standards and test procedures that will be universally recognized and accepted by buyers, mortgage lenders, government agencies and building inspectors. Another effort will be encouragement of more technical research among P.H.M.I. member companies, material suppliers and private, state and Federal research laboratories.

Housing Design Standards Issued by Budget Bureau

A NEW CONCEPT of design and construction of housing accommodations for Federal personnel stems from mandatory standards issued recently by the Bureau of the Budget.

Great significance lies in the fact that the Bureau's design standards apply to military as well as civilian housing, primarily to construction going on in the United States but wherever practicable to foreign housing for U. S. government employes as well.

Military barracks as a type are excluded from the new Budget orders, but just about every other type of housing for Army, Navy, Air Force and other Federal government units is encompassed. A rough estimate places at 90 per cent the proportion of all Federal housing construction that is military in nature.

These facts place the new Budget Bureau standards, applicable as they are to all walk-up structures not over four stories and basement in height, in a position to supersede the advisory standards that have been worked out at cost of much time and great endeavor on some types of similar housing by the Director of Installations of the Department of Defense.

Text of the Bureau's standards deals only with structures, not with site improvements. The document makes many references to established codes or standards and on many points goes into fine detail in specifying precise criteria.

While housing of a permanent nature only is meant to be considered under the new rules, housing for the employes of government contractors is brought under the recent mandate. Two conditions were outlined to govern agency action concerning justification of housing projects and these apply equally to military and civilian shelter. Budget officials said construction of housing is normally justified only for the housing of the permanent complement of stations expected to be in operation at least 25 years. The two conditions:

1. At remote stations or foreign service posts where no private quarters are available for rent.

2. Where it is determined that necessary service cannot be rendered or property of the United States cannot be adequately protected unless government quarters are constructed at or near the station.

Agencies were told by the Bureau that their proposals for housing that didn't qualify under these conditions would not receive favorable consideration unless it could be shown that some other "unusual condition" justified construction. At stations where emergency conditions exist, temporary housing will be permitted if the stations are to be in operation for less than 25 years; but such construction still must qualify under the above two conditions.

The idea of economy in the housing efforts of Uncle Sam is apparent everywhere in the new standards, particularly in the policy governing their application. Uniform design standards are to be followed — the standards developed by the Housing and Home Finance Agency at the request of the Budget Bureau. These standards have been developed to assure that government housing will be economical to build and maintain. No uniformity in appearance is required, and uniform plans are not available.

In its directions to agencies, the Bureau insists that multi-family units such as apartments, row, or twin-type dwellings be constructed rather than detached dwellings except where it is "clearly impracticable" to do so. Multiple-family dwellings, it is pointed out, are not only more economical to construct and to maintain, but also can be designed so as to afford flexibility in the number of rooms per dwelling unit, thus accommodating shifts that occur from time to time in the family pattern of the station complement.

Types of dwellings also will be governed by the amount of rent occupants can afford. Rents are required to be based on prevailing rates in the local market for comparable accommodations. Agencies are advised that care must be taken to avoid construction of units that would rent at rates beyond the means of the occupants.

If there was any doubt about requirements for compliance, it was dispelled by this paragraph in Circular A-18 which announced that plan to heads of executive departments and establishments:

"Budget requests and apportionment requests for money for the construction of family housing shall be based upon compliance with the approved design standards. Exceptions, if any, should be plainly set forth in the budget request or apportionment request."

The standards themselves deal with space and arrangement, structural design principles, footings and foundations, floors, exterior wall coverings, interior coverings, roofing, stairs and exits, fire resistance, sound resistance, condensation control, termite and decay resistance, plumbing, heating, electrical and miscellaneous equipment. These are set out in 80 pages of detail. — *E. M.*

(More news on page 20)

Above: the "one-story school" of the story on page 292 of the August issue—Mohawk Elementary School, now nearing completion in Park Forest, Ill.; Loebl, Schlossman and Bennett are the architects. Apologies to them and to Herbert Banse of Chicago, architect for the three-story laboratory for G. D. Searle Company which mysteriously found its way into the Park Forest story

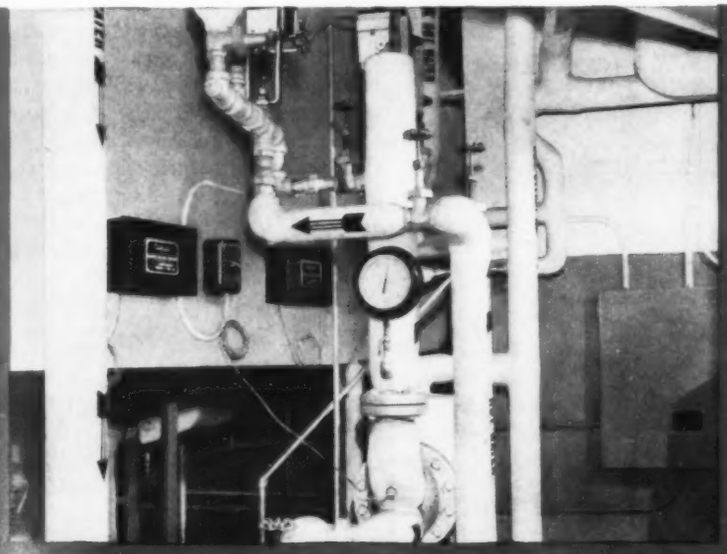
Keeping pace with the completion of the building program of Caterpillar Tractor Co. in Joliet, Illinois are Barber-Colman unitary temperature control systems, each with its own electric "Control Center."

Starting with building "A" and "B" in 1950, continuing through extensions to building "B" and new building "C" in 1953, there are now 63 independent "Control Centers" operating heating, ventilating, and air conditioning systems throughout the plant. General offices, first aid rooms, and the shop office, auditorium, cafeteria, and metallurgical laboratory are air conditioned. As a safety precaution, the office temperature control system is interlocked with the autocall and fire alarm systems. In an emergency, a warning signal is given, all exhaust fans stop, and all air intake dampers are closed.

Over 1,500,000 cfm are handled by the 59 ventilating units in the factory area. Each has its own "Control Center," operating independently of the others. Should trouble develop in one area, there is no need for a complete plant shutdown. Three boilers, two of 80,000 lbs., and one of 100,000 lbs. per hour capacity, furnish steam for heating and processing. Electrical consumption per month is now over 3,000,000 kw.

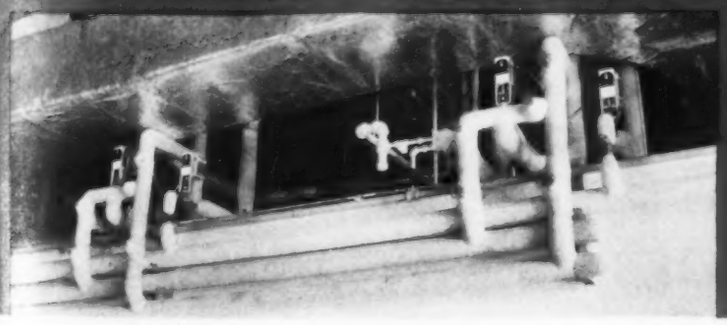
For the complete story on how electric "Control Centers" can modernize your temperature control systems . . . and bring you substantial savings in time and materials . . . phone nearby Field Office or send coupon today.

Building "A" and "B": Giffels, Vallet & L. Rossetti, Detroit, architects and engineers. Building "B" extension: Lyle V. DeWitt, Decatur, architect; E. O. Hull, Peoria, engineer. Building "C": Crenshaw & Jost, Pekin, architects; Caterpillar Engineering Dept., engineers. For all buildings: Stanley-Carter Co., Detroit, heating contractor; Gould Electric Co., Chicago, electrical contractor for temperature controls installation.



Left—in keeping with modern design of plant, Caterpillar ordered the finest of electric control equipment. For example, all motor-operated valves have oil-submerged operators.

Below—space is saved by installing an individual "Control Center" cabinet in the web of a column in each control area.



Left—battery of motor-operated valves with oil-submerged operators in building "C," controlling heating and cooling operations.

BARBER COLMAN

ELECTRIC
Control Center

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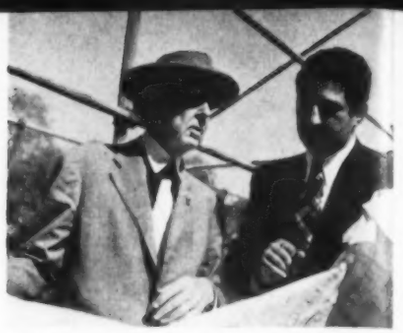


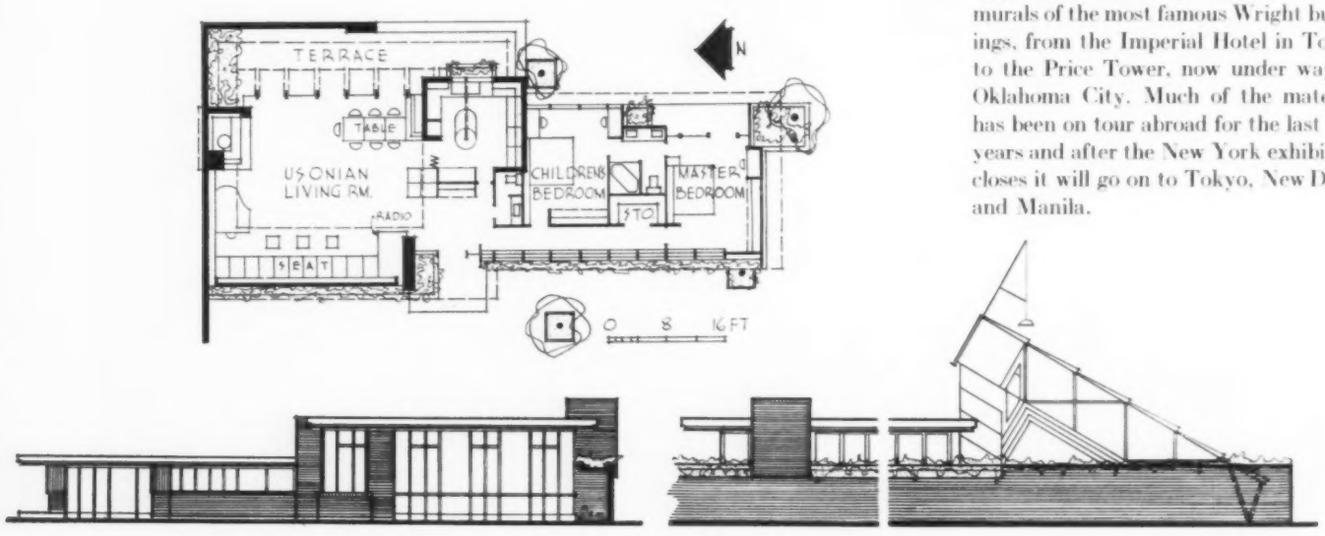
Architect and builder — Wright and David Henken

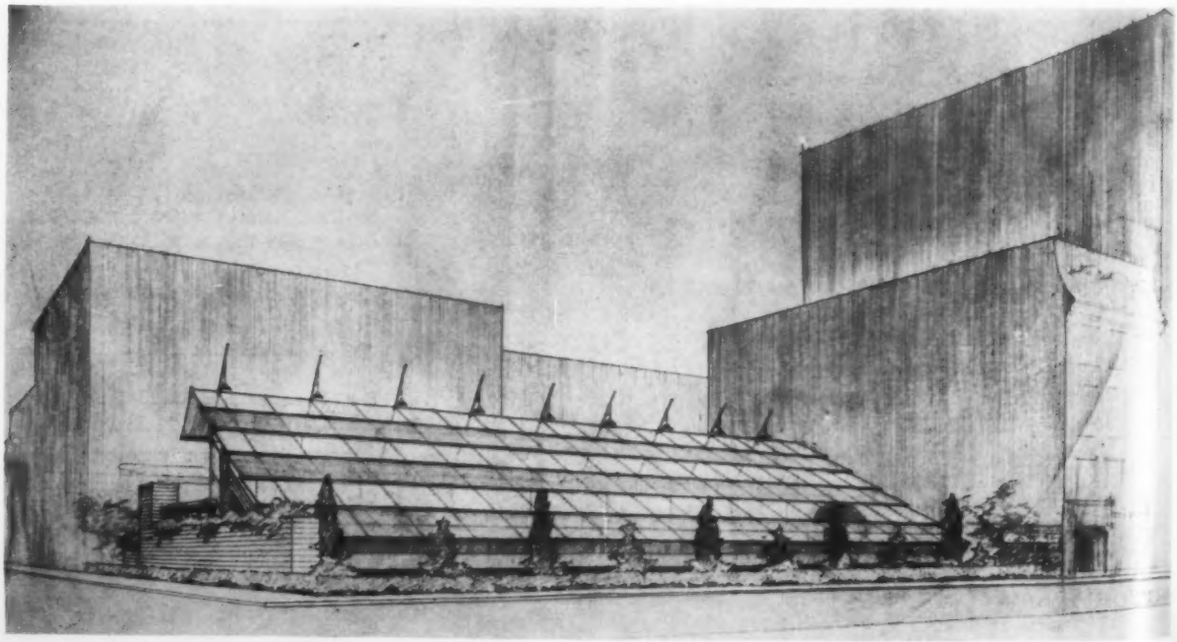
NOT ONE BUT TWO buildings by Frank Lloyd Wright were going up last month on the Fifth Avenue and Eighty-ninth Street site of the Guggenheim Museum project — neither one of them the spiral museum New York's Department of Buildings has for so long so intrepidly resisted. New York's first Wright buildings are a glass pavilion to house a retrospective exhibit of his work and a "Usonian" house designed as a full-scale example of his residential architecture.

They are temporary structures: they will be razed next month to make way for the museum, if that project is by then purified of its much-publicized transgressions of the city's code.

The pavilion was designed as an asymmetrical translucent tent, 145 ft long by 50 ft wide, composed of alternating horizontal panels of corrugated glass and asbestos cement, with a structural system entirely of ordinary two-in. pipe, and illumination at night not only from within but also from lamps suspended above the roof. The house, of plywood, glass and brick-like concrete blocks, has a 32 x 28-ft living room with a 12-ft-high ceiling and the famous corner windows. While disciples of organic architecture were, it is to be hoped, looking the other way, special trees and plants were brought from Wright's Wisconsin and the Guggenheims' Long Island to landscape the site. Building of the project was supervised by David Henken, a former pupil of Wright. Most of the building materials were contributed by their manufacturers.

Together the pavilion and the house, covering a total area of some 10,000 sq ft, provide the most comprehensive single exhibit ever assembled of Wright's work. The display includes more than a score of models, the 16-ft-sq miniature of Broadacre City among them, and 800 original drawings, plans and photomurals of the most famous Wright buildings, from the Imperial Hotel in Tokyo to the Price Tower, now under way in Oklahoma City. Much of the material has been on tour abroad for the last two years and after the New York exhibition closes it will go on to Tokyo, New Delhi and Manila.





Air Motion: This is essential to eliminate stagnant pockets, which might be breeding centers for fungi on books.

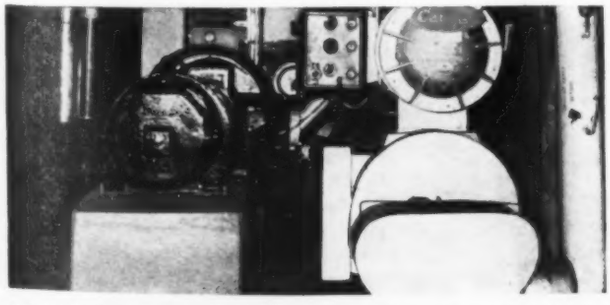
Modern air conditioning insures year-round reading comfort for students in the "Pat Harrison Room" at the University of Mississippi.

FACTORS RELATED TO FILM STORAGE

These are the same as for books, with the additional "musts": contamination of air must be absolutely avoided, and relative humidity held between 40 and 50 per cent. Standard black-and-white films will remain well preserved for years under the same temperature and humidity conditions as are ideal for human comfort. However, color film should be stored in light-proof and vapor-proof containers, and kept in 40°F. or lower temperatures. Archival storage of either black-and-white or color film over many decades requires the identical precautionary measures as for color film alone.

CONTROLS AND EQUIPMENT

All standard air conditioning units are adaptable to library systems. System may consist of compact "package units" or larger "central-station" types. The latter should be zoned to meet varying loads. Individual-area controls compensate for differences in amount of lighting and number of occupants. In regions with very low power rates, mild winters and a convenient heat receiver (lake or river), the heat pump or reverse-refrigeration-cycle system may prove most economical for year-round air conditioning.



"Carrier" equipment charged with "Freon" refrigerants provides efficient air conditioning at this modern library.

ARCHITECTURAL CONSIDERATIONS

Fixed double glazing will help to eliminate condensation, air leakage, dust, outside noise, heat loss or gain, and need of expensive operating sash. Sunshades, exterior louvers and heat-resistant glass are all useful in preventing excessive loads on the equipment.

As in all standard air conditioned structures, the library must be designed to accommodate ducts, plenums, hollow slabs and other chambers for circulating air. Current developments in high-velocity air distribution have done much toward reducing the amount of space required. In addition, ducts should be insulated, not only to prevent heat loss, but also to prevent condensation on ducts in furred spaces during the cooling season.

The system should be designed to meet changing requirements of lighting, and consequent conflicts between location of lights, ducts and outlets in hung ceilings. In addition, for architects planning new libraries, there are several other factors which influence structure of building and, consequently, choice of equipment. These embrace: zoning, building codes, availability of water, steam, and drainage. Careful attention to detail can go far toward insuring efficient, economical installation and operation of air conditioning machines in libraries.

NEW LIBRARIES WITH COMPLETE AIR CONDITIONING

Roanoke Public Library
U. of Georgia Library (Athens, Ga.)
Detroit Public Library Branches
U. of Miss. Library (University, Miss.)
Okla. A & M Library (Stillwater, Okla.)
U. of Florida Library (Gainesville, Fla.)
Fondren Library, Rice Institute (Houston, Texas)

★ ★ ★

As Mr. Moesel has explained, the trend toward modern living has brought about the introduction of air conditioning into the comparatively virgin field of college and public libraries. Library administrators had long enjoyed air conditioning in stores, theaters, and perhaps in their own homes—but only recently have they realized that it can be extremely valuable in many library applications. The mounting number of air conditioned libraries spotlights this growing recognition.

Whether the structure calls for "package units" or "central-station" systems, there are many excellent machines which you can recommend with confidence. And the fact that these are designed for use with "Freon" refrigerants helps insure dependable air conditioning and longer, trouble-free operation of equipment.

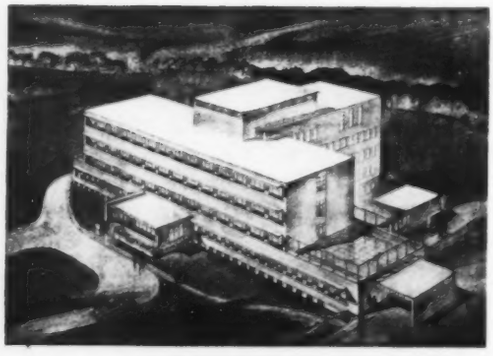
Du Pont FREON® fluorinated hydrocarbon refrigerants are safe . . . nonflammable, nonexplosive, virtually nontoxic . . . and as pure as rigid, laboratory controlled methods of manufacture can produce. In addition, "Freon" refrigerants fully comply with building-code requirements everywhere. E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.

PRESTRESSED CONCRETE SESSIONS SET JAN. 28–29

KEEN INTEREST IN PRESTRESSED CONCRETE has led to the organization of a Canadian Conference on Prestressed Concrete to be held in Hart House Theater, Toronto, next January 28–29.

The conference is being sponsored by the Extension Department of the University of Toronto with the cooperation of the university's Department of Civil Engineering. Prof. C. F. Morrison is the conference chairman. Other members of the Department of Civil Engineering on the committee are Prof. T. R. Loudon and Prof. M. W. Huggins. Committee secretary is Harold Fealdman, assistant research engineer, Structural Research Division, Hydro-Electric Power Commission of Ontario. The committee also includes R. B. Young, concrete consultant, H.-E.P.C.; Eric Munz, consulting engineer, H.-E.P.C.; D. O. Robinson, Canada Cement Company; R. H. MacDonald, Steel Company of Canada; James Gow, assistant secretary of the Faculty of Applied Science and Engineering; and M. MacMurray, representing the Toronto Branch, Engineering Institute of Canada.

(*Continued on page 26*)



Govan, Ferguson, Lindsay, Kaminker, Maw, Langley & Keenleyside of Toronto are the architects for the $2,500,000 Scarborough, Ont., General Hospital, 125-bed project for the Sisters of Misericorde

1953 DESIGN MERIT AWARDS FOR CANADA

Good Design in Canadian Products Recognized in First Award Program of National Industrial Design Committee

1

2

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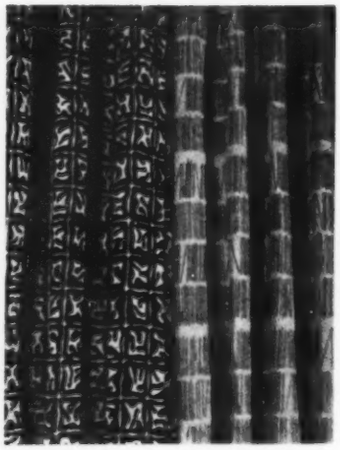

4

5

Among the 46 products which won certificates of award for excellence in design: (1) Upholstered foam rubber settee with steel legs—designer, Peter Cotton and Alfred Staples; manufacturer, Perpetua Furniture Ltd., Vancouver. (2) Cocktail table, laminated oak or walnut top, mild steel legs—designer, Morrison-Bush Associates; manufacturers, Earl A. Morrison Ltd., Victoria. (3) Hand-screened prints on rayon and cotton, Manx design (left), Rush and Reed design (right)—designer, John Brook; manufacturer, J. & J. Brook Associates, Toronto. (4) Telephone stands of plywood, perforated masonite and arborite—designer, John Ensor; manufacturer, Design Craft Ltd., Toronto. (5) Utility chair, solid birch seat, molded birch plywood legs and back—designer, Russel B. Call, Knowlton, P. Q.; manufacturer, Roxton Mill & Chair Ltd., Waterloo, P. Q.

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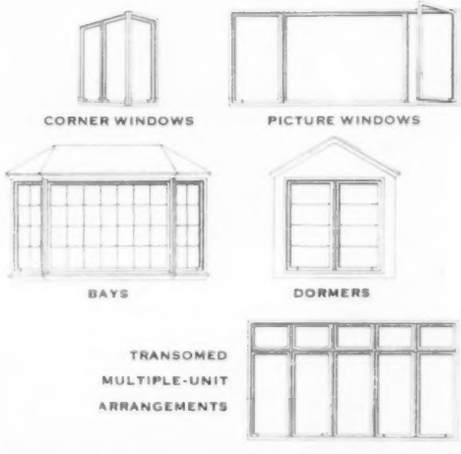

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2.5 MILLION NEW HOUSES MAY BE BUILT BY 1980

More people in more houses is one of the strongest factors in the long-term investment outlook for Canada, declares the Bank of Nova Scotia in its current business review.

According to the bank's analysis of vital statistics, 12 years of high employment, high marriage and birth rates, a renewed flow of immigration and relatively low emigration, has set in motion a new and unexpected surge of population growth. Past experience shows that increased productivity and a higher standard of living accompany expansion in population, the bank notes.

CANADA (*Continued from page 24*)

Emphasizing that population forecasting is hazardous, the bank points out that business and government planning must never-the-less be based on future growth of population irrespective of a considerable margin of error.

Without considering the possibility of another world war, as far as can be seen only two developments would be likely to retard Canada's population growth, it is asserted — a long-continued weak world demand for basic products and a severe and prolonged depression — and the bank regards neither as "presently indicated."

A rise of two thirds in the number of consumers in Canada, coupled with substantially higher living standards for the whole population, would have significant implications for every sector of the economy, the review continues.

Ten million extra people, the review calculates, would require 2.5 million extra dwelling units — even without allowing for the houses that must pass out of use in the next quarter-century. Many of the houses built since the war have been small. If, as the evidence appears to indicate, there is a trend away from the two-child family towards families of three or four children, these houses will be grossly inadequate.

More people in more houses opens up the prospect of a much larger market for household appliances and equipment.

The growth of the Canadian market also has significant implications for Canada's manufacturing operations, states the review, citing as one of the main disadvantages under which many of these industries labor the smallness of the domestic market. A population of 25 million would certainly enable many more industries to operate close to the optimum level needed for efficient production.

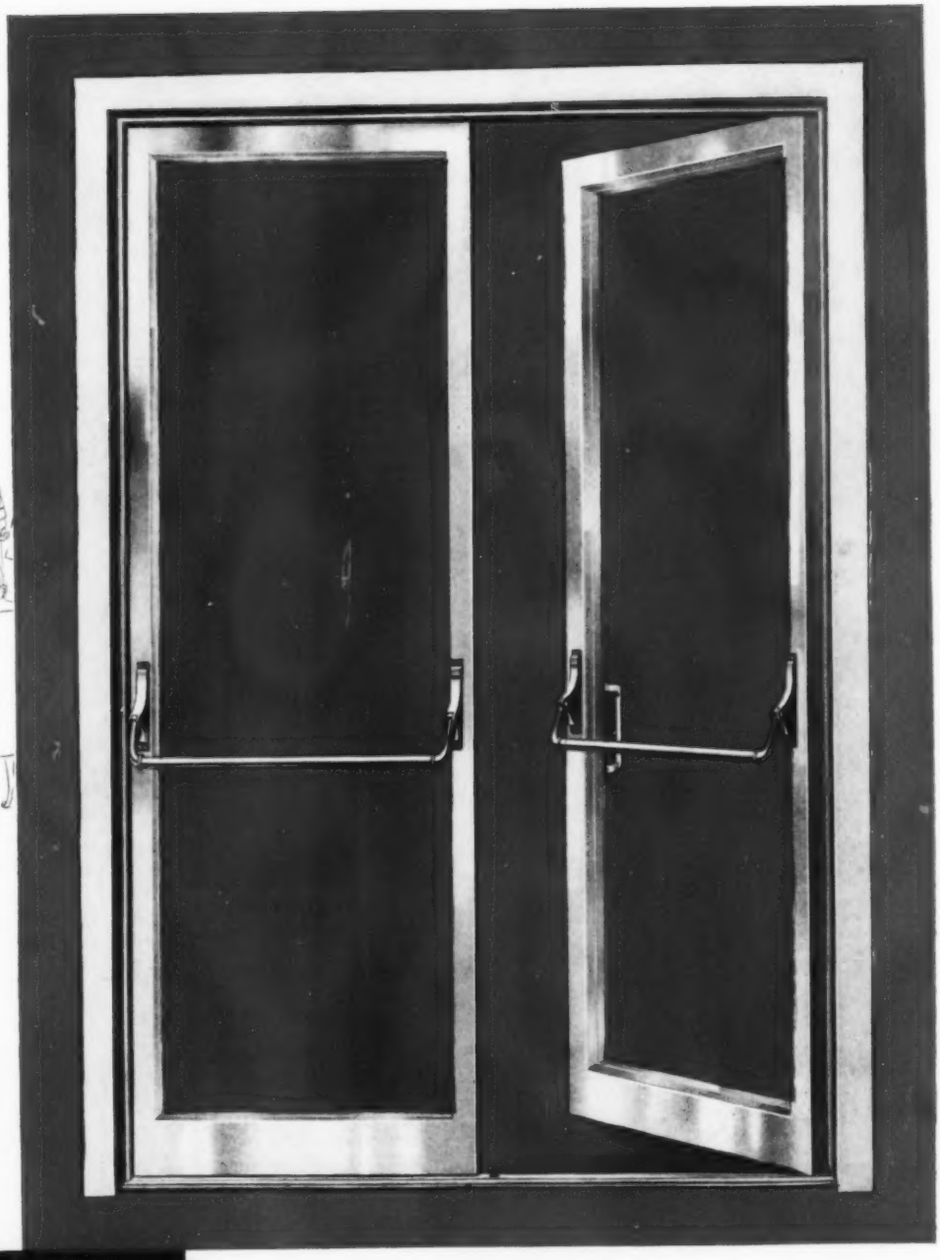
1953 BUILDING TOPS 1952 FOR FIRST SEVEN MONTHS

Latest figures from MacLean Building Reports showed Canada's building boom took contract awards over the billion-dollar mark for the first seven months of 1953 and topped the 1952 figure for the period by eight per cent. The upward trend that began in April took the seven-month total to $1,130,689.

The July 1953 total was $152,156,500, an advance of $12,759,500, or 12.7 per cent over last July's $139,397,000. MacLean concluded that "the construction industry should prosper steadily for the balance of this year."

In industrial and engineering categories, however, declines were regis-

(*Continued on page 30*)



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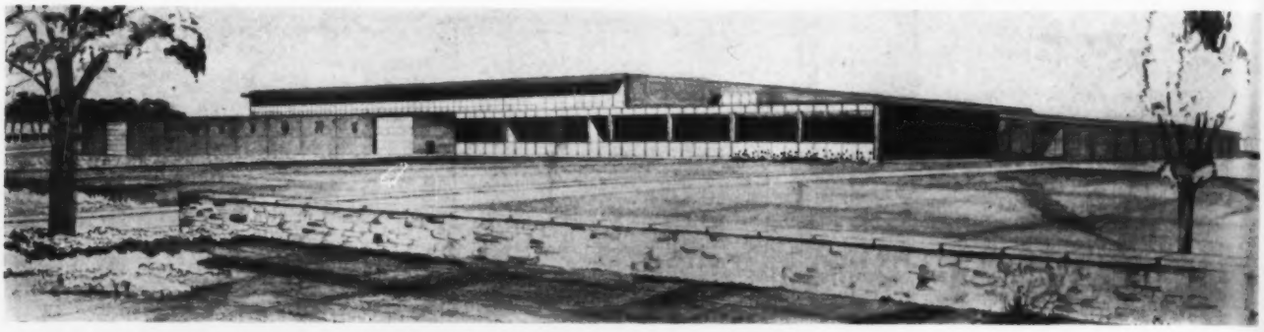
CANADA (*Continued from page 26*)

Below: one of several service buildings to be built in Toronto suburbs by Simpson's Ltd. Architects are John B. Parkin Associates of Toronto



tered — 2.8 per cent under July 1952 for industrial construction and 4.5 per cent under July 1952 for engineering construction. Increases of 7.9 per cent in residential construction and 12.2 per cent in business construction gave the overall total its lift.

PLANT OUTLAYS EXPECTED TO TOP EARLY ESTIMATES

A recent check on the Canadian capital expenditure program for 1953 covering outlays for new construction and machinery and equipment indicates that expenditures are likely to be about three per cent higher than anticipated at the beginning of this year. In value terms this represents an increase of nine per cent over 1952 and with only minor price changes expected, the volume increase should be close to this rate.

These estimates, based on a recent sample survey, were released by Trade & Commerce Minister C. D. Howe.

NEWS NOTES

A special committee headed by Denis Brough of John B. Parkin Associates has been formed in Toronto to investigate the possibility of forming an **association of specification writers.** The first meeting, attended by representatives of six architectural and three professional engineering firms, unanimously agreed to try for periodic get-togethers with general contractors, subcontractors, mechanical and electrical contractors and suppliers of special materials. . . . **Paint research** activities of the National Research Council have been transferred from the Division of Chemistry to the Building Materials

(*Continued on page 32*)

- Architect and Engineer: COSTON and FRANKFURT
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- Plumbing, Heating, and Air Conditioning: MANOY ENGINEERING COMPANY

OKLAHOMA MEDICAL RESEARCH FOUNDATION BUILDING, Oklahoma City

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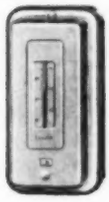

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(b28)

THE RECORD REPORTS

CANADA

(*Continued from page 30*)

Section of the Division of Building Research. John Harris heads the paint research unit. . . . Guests of honor at the first fall meeting of the Toronto chapter, Ontario Association of Architects, on October 1, were to be **Basil Spence,** architect of England's new Coventry Cathedral, and the Provost of Coventry, Very Rev. R. T. Howard. . . . **Sir Hugh Casson,** who visited Canada and the U. S. last spring as guest of the Royal Architectural Institute of Canada, has been appointed president of the Architectural Association in London for its 107th session. . . . A three-man delegation of the **Arcon Development Group,** comprised of several large British firms, is now on a 12,000-mile tour extending from Montreal to Vancouver to investigate the Canadian prefabricated market. Canadian needs in industrial, domestic and other types of prefabricated buildings are being assessed with an eye to the special requirements imposed by Canadian weather and building specifications. Arcon claims to have sold more than £400,000,000 worth of structures in 70 countries in the last three years. Coordinating contractor is Taylor Woodrow Ltd., a firm which recently arranged a £500,000 loan to help finance a start in the Canadian contracting field.

Six-story office building for downtown Toronto will have steel frame faced with stone and granite. Owner is Louis Mayzel; architects are Pentland, McFarland & Baker of Toronto

SHOPPING CENTER LIGHTING

...a natural for Monotube poles

EFFICIENT outdoor lighting is vital to the success of shopping centers. It stimulates business. It means greater safety for shoppers and their children. Traffic turnover is smoother, faster. Auto damage and thievery are minimized.

Notice the Union Metal Monotube lighting poles in the typical installations shown. Modern Monotubes, of these and other types, have been chosen for new shopping centers and parking areas all over the country. Like Monotubes for street lighting, their graceful continuous-taper, fluted or plain round design blends perfectly with any surroundings. Their cold-rolled strength and proved engineering is assurance of service for a lifetime with minimum maintenance.

Use the coupon below to get new Folder LS-15, "Monotubes for Shopping Center Lighting". It shows additional installations and gives information on Monotube poles for every conceivable shopping center lighting need. The Union Metal Manufacturing Co., Canton 5, Ohio.

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 By Ernest Mickel

MORE PEOPLE OWN HOUSES, AVERAGE VALUE UP: SURVEY FINDS NO SAG IN DEMAND FOR HOUSING

HOME OWNERSHIP of nonfarm families jumped from 18.5 million early in 1948 to 23.5 million early this year, and the average value of owner-occupied houses has increased from $9100 early in 1949 to $10,700 early in 1953, according to a study recently completed for the Federal Reserve System by the University of Michigan's survey research center. The report on the study said continuation of a strong demand for housing is indicated by the large number of consumers who in early 1953 were considering the purchase of a house this year.

And while demand has continued strong since World War II, there is evidence to support a belief that "the major part of this demand has been met by an increase in the number of owner-occupied houses."

The Michigan group, which has been running such surveys for FRB for years, reports the latest shows a larger proportion of consumers early this year planned to buy new and existing houses during 1953 than in two previous surveys. People reporting plans to buy in 1953 said they expected to pay approximately the same amount as was paid by other buyers on the average in 1952 —a fact which should be paired with the recent estimate of the Bureau of Labor Statistics that housing prices this year will probably average five per cent above 1952.

While the increase in house values shown in the survey reflects primarily the rise in real estate prices, it reflects also the greater proportion of recently constructed houses in the total stock, the survey center found. The rise in the average value of owner-occupied houses since 1949 was accompanied by a sizable increase in the average amount of mortgage debt. Thus the average equity increased less than the average value.

The increase in the nonfarm home ownership has been relatively greater than the increase in number of nonfarm families, FRB notes, and the proportion owning homes rose from 49 per cent early in 1948 to 54 per cent early in 1953. Altogether, the proportion of home owners has shown little change since early in 1951:

HOUSING STATUS OF NONFARM FAMILIES
(percentage distribution)

Year	*Est. No. of families (in millions)*	*All Cases*	*Owns Home*	*Rents Home*
1953	43.9	100	54	43
1952	42.6	100	54	42
1951	41.7	100	55	41
1950	40.8	100	51	44
1949	39.5	100	51	44
1948	38.0	100	49	45

Note: Missing percentage points accounted for by families who have housing as part of compensation, are temporarily living in houses they have sold, etc.

Younger veterans of World War II have made a marked change in their

(Continued on page 40)

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2. Nothing newer, nothing smarter. 33 gorgeous decorative Kalistron colors that, seen through the Vinylite, take on 3rd dimensional depth and beauty.
3. Easiest to maintain. Wipes clean with a damp cloth. Or you can wash it with soap and water. A low cost, long-enduring investment.

Functionally flexible, Kalistron can be mounted to curves, columns or straight walls. Also supplied with 3 way stretch fabric back for matching upholstery use. Architects find Kalistron ideal wherever beauty and durability must walk hand in hand—as in building corridors, offices, hotels, hospitals, schools, libraries, restaurants, bars, etc.

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housing arrangements in the postwar period, FRB said. While purchases of houses are generally more frequent among younger families, young veterans have been affected by special conditions. In many cases, they had deferred marriage or the setting up of a permanent household during the war years and had faced difficulties in finding housing immediately after the war. The favorable credit terms made available under the Veterans Administration program permitted veterans to enter the market in large numbers as housing supplies improved. In early 1948, it was noted, only three in 10 of the younger spending units (heads under 45 years of age) with veterans owned their homes and two in 10 lived with relatives. Five years later, four in 10 of similar age and veteran status owned their homes and only one in 10 lived with relatives.

The survey center report showed that consumers planning 1953 purchases of homes were concentrated in the same groups which have been active in the market in other postwar years. About 60 per cent of prospective purchasers were younger married couples (under 45) although they made up less than 40 per cent of the population. Veterans continued to show more interest in the housing market than did nonveterans. Nearly half of those planning to buy homes in 1953 were veterans of World War II. This continued a trend of recent years.

"Improvements" Bulk Large

The survey attributed "a substantial increase in the average value of owner-occupied homes" to (1) rising prices; (2) an increasing proportion of relatively new houses; and (3) large expenditures on improvements. The proportion of homes valued at $12,500 or more was found to have risen from two in 10 early in 1949 to three in 10 early in 1953.

A striking difference was noted in the value of owner-occupied houses by size of community. In general the value of houses was said to be greater in more densely populated areas. About half the houses in metropolitan areas were valued early this year at $12,500 or more as compared with only one sixth of the houses in small towns and rural areas. The variance reflects differences in land and construction costs, quality, and the income groups owning them.

It was found that expenditures for improvements and maintenance continued at high rates in 1952. Approximately 12 million home owners spent at least $50 each on their houses last year and about one third of these spent $500 or more. Consumer plans for improvements and maintenance suggested demand in this field would continue strong.

EXPECT 10 MILLION MORE ON SCHOOL ROLLS BY '60

An enrollment increase in American schools and colleges (both public and private) of 10 million by 1960 was forecast by U. S. Commissioner of Education Lee M. Thurston in the annual pre-school-opening report of the Office of Education. The report, Commissioner Thurston's first public statement since taking office, was issued shortly before his unexpected death on September 4 following a series of heart attacks.

Mounting enrollments, building de-

(*Continued on page 296*)

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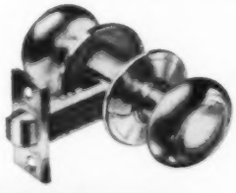

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CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926–1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1940	126.3	125.1	132.2	135.1	131.4
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.4	240.0
1950	256.2	254.5	249.5	251.5	248.0
1951	273.2	271.3	263.7	265.2	262.2
1952	278.2	274.8	271.9	274.9	271.8
May 1953	277.7	274.5	273.5	278.5	272.8
June 1953	279.6	277.6	275.9	279.6	276.4
July 1953	283.6	280.0	282.8	288.3	284.9
	% increase over 1939				
July 1953	**129.6**	**128.8**	**116.4**	**116.1**	**119.0**

ATLANTA

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1940	91.0	89.0	96.9	98.5	97.5
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
1951	212.8	214.6	204.2	202.8	205.0
1952	218.8	221.0	212.8	210.1	214.3
May 1953	221.7	223.3	217.9	218.4	220.0
June 1953	221.9	223.5	218.2	218.6	220.2
July 1953	226.5	227.8	224.3	226.0	226.0
	% increase over 1939				
July 1953	**162.5**	**174.1**	**135.9**	**132.0**	**138.6**

ST. LOUIS

1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1940	112.6	110.1	119.3	120.3	119.4
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
1951	252.0	248.3	238.5	240.9	239.0
1952	259.1	253.2	249.7	255.0	249.6
May 1953	262.3	254.2	258.1	268.0	258.1
June 1953	262.4	254.3	258.9	268.4	261.6
July 1953	264.2	257.0	260.7	269.3	263.2
	% increase over 1939				
July 1953	**139.7**	**140.2**	**119.6**	**124.8**	**121.2**

SAN FRANCISCO

1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1940	106.4	101.2	116.3	120.1	115.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
1951	245.2	240.4	239.6	243.1	243.1
1952	250.2	245.0	245.6	248.7	249.6
May 1953	252.3	246.4	251.4	255.6	254.3
June 1953	253.7	248.5	252.7	256.0	255.0
July 1953	257.2	250.8	258.3	263.1	261.8
	% increase over 1939				
July 1953	**143.6**	**152.6**	**120.0**	**115.8**	**124.7**

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95
(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear regularly on this page.

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combines the finest features of other tiles

This new kind of flexible, durable, inlaid tile is the closest thing to all purpose flooring ever manufactured for residential and commercial use. Vinylbest has all the true clean color characteristics of rubber tile. All the grease and alkali resistance of vinyl. All the easy maintenance features of inlaid linoleum. All the moisture resistance of asphalt tile.

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REQUIRED READING

TWO ASPECTS OF HOUSING

House Building in Transition; Based on Studies in the San Francisco Bay Area. By Sherman J. Maisel. A Publication of the Bureau of Business and Economic Research, University of California. University of California Press (Berkeley and Los Angeles, Calif.) 1953. 6½ by 9½ in. 390 pp. $5.00

The Role of Federal Credit Aids in Residential Construction. By Leo Grebler of the Institute for Urban Land Use and Housing Studies, Columbia University. Studies in Capital Formation and Financing. Occasional Paper 39. National Bureau of Economic Research, Inc. 1953. 6 by 9 in. 76 pp. $1.00

REVIEWED BY THOMAS S. HOLDEN

THESE two research studies illustrate widely different approaches to the appraisal of current problems.

Sherman J. Maisel's "House Building in Transition" is a completely objective study of the housebuilding industry of the San Francisco bay area in the postwar period. It is based on a factual survey of housebuilding firms that was sponsored jointly by the Housing and Home Finance Agency and the University of California. Analysis of the organizations and operations of various types of building companies furnish the basic material for a description of a local housebuilding industry which may very well be typical of housebuilding operations in metropolitan areas throughout the country.

Mr. Maisel shows how the heavy postwar housing demand, stimulated by special credit arrangements, brought about the growth of large housebuilding companies and develops the fact that medium-sized companies (25 to 99 dwelling units a year) achieved lower unit costs than the small companies. The large companies, however, were able to cut costs and selling prices as compared with the output of the medium-sized companies. The picture presented is one of an industry with measurable achievements to its credit and with the prospect of substantial further development of an evolutionary character.

Mr. Maisel looks for progress under the stimulus of the buyers' market recently come into being. He sees for the future some further concentration of operations through further growth of large local companies, improvement in management techniques, greater concern for quality in housing, and greater market and technical research activities by material producers and suppliers, by the builders' own trade associations and by government agencies.

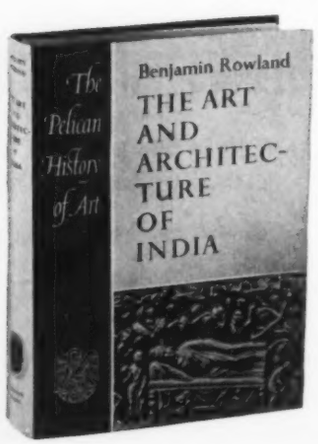
The Maisel book is a valuable contribution to the small but growing body of factual literature about the building industry, a wholesome antidote to the ideological excesses of housing theorists and reformers who were so much in the limelight in recent years.

The Grebler study is a horse of another color. While it purports to describe and evaluate the operation of credit mechanisms in the housing field, it actually treats federal credit aids mainly as instrumentalities of perpetual pump-priming in support of a current theory of full employment. The achievements of the housebuilding industry in overcoming postwar shortages and in large degree modernizing its operations appear in this study as of definitely secondary importance.

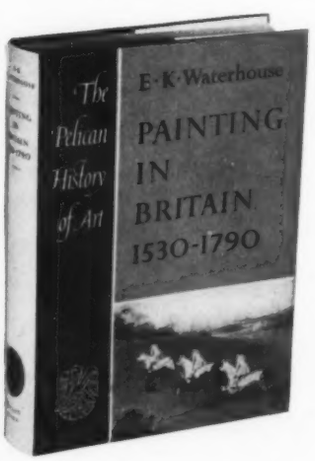
There is nothing here as to the reasons why a transformation of the old-fashioned pawnbroking system of lending to a credit system became a matter of prime necessity in the 1930's. There is no analysis of the relationship of modern housing credit to commercial credit, installment credit and other credit mechanisms operating in our economy. There is no appraisal of present federal mortgage practices in terms of sound credit criteria.

Although this study was sponsored by such respected institutions as The Institute for Urban Land Use and Housing Studies of Columbia University, the National Bureau of Economic Research and the Life Insurance Association of America, it does not impress the present reviewer as an objective appraisal of federal activities in the field of housing credit. A truly objective appraisal of federal housing credit operations is very much needed.

PELICAN VOLUMES LAUNCH NOTEWORTHY SERIES



REVIEWED BY
JAMES S. HORNBECK, A.I.A.



IN the literature of the history of art, an important milestone is marked by the recent appearance of the first two volumes of the authoritative and monumental Pelican History of Art, which will comprise 48 volumes in all. These uniform and attractive cloth-bound books, 10½ by 7¼ in., will each contain 250 to 300 text pages and 300-odd illustrations of good size and will be issued at the rate of four volumes annually for 12 years until the series is complete.

There has existed the need for a comprehensive survey of the history of art in English, the only other ones having been compiled several decades ago and written in French and German. Desir-

(*Continued on page 48*)

INSULATED METAL WALLS

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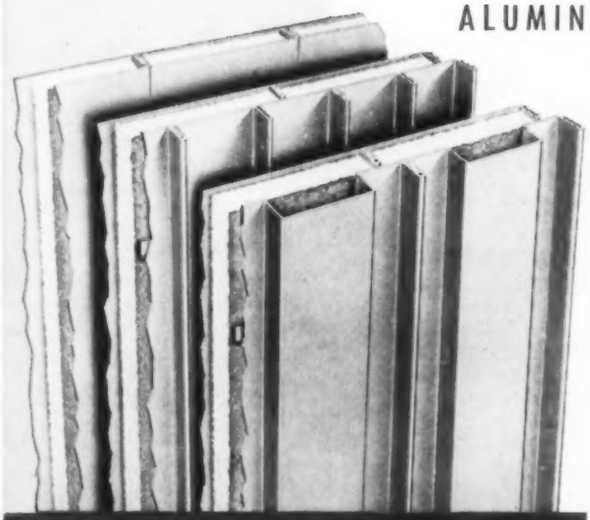

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MAHON

REQUIRED READING

(*Continued from page 46*)

able indeed will be this new summing up in the light of recent knowledge gained by both research and excavation. With the growth of wider public interest in art, evidenced by the popularity of exhibitions, a greater emphasis on art history in universities, the increasing demand for good reproductions, and the emergence of well-received television and radio programs on the subject, these volumes should hold an appeal for the literate public as well as the more specialized student of visual art.

As for the scope of the work, the publisher's prospectus states, "the 48 projected volumes will cover the history of art from pre-history to the 20th century, including separate volumes on the Aborigines, China, Japan, India, Islam, Russia, and the pre-Columbian civilizations of America. The art of the ancient Orient, Egypt, and the Mediterranean countries to the end of Roman civilization will be treated in seven volumes, the Middle Ages in 13 volumes, and the modern centuries in 19."

Editor for the series is Nikolaus Pevsner, Professor of Fine Arts at Cambridge and an associate editor of the *Architectural Review*. Most of the volumes are being written by British and American authorities, while others are being prepared by historians from Germany, France, Holland, Austria and Sweden. Each of the various authors has been selected as not merely an authority or encyclopedist, but in addition for his ability to present the material attractively and to intrigue the reader into speculating on interesting issues still open to question.

THE ART AND ARCHITECTURE OF INDIA

The Art and Architecture of India — Buddhist, Hindu, Jain. By Benjamin Rowland. The Pelican History of Art. Penguin Books (Baltimore, Md.) 1953. 7½ by 10½ in. 280 pp., text, 190 pp. plates

THIS absorbing survey, based on more than twenty years research in the field of Oriental art, is both easy to read and informative, especially for those readers whose background in the history of art is based primarily on the western tradition. The author writes with rare sympathy and understanding on Indian art as a form of religious devotion and an expression of life which symbolizes the ultimate truth it embodies.

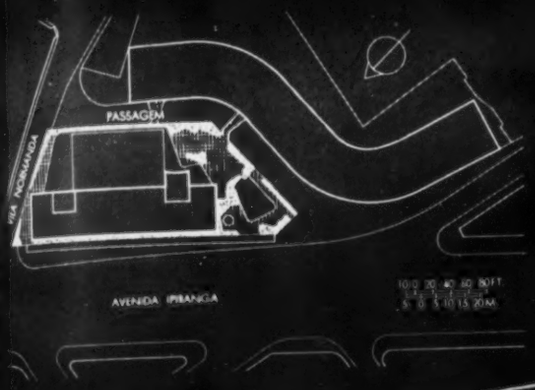
Following an introduction which serves to acquaint the reader with fundamental concepts, the survey starts

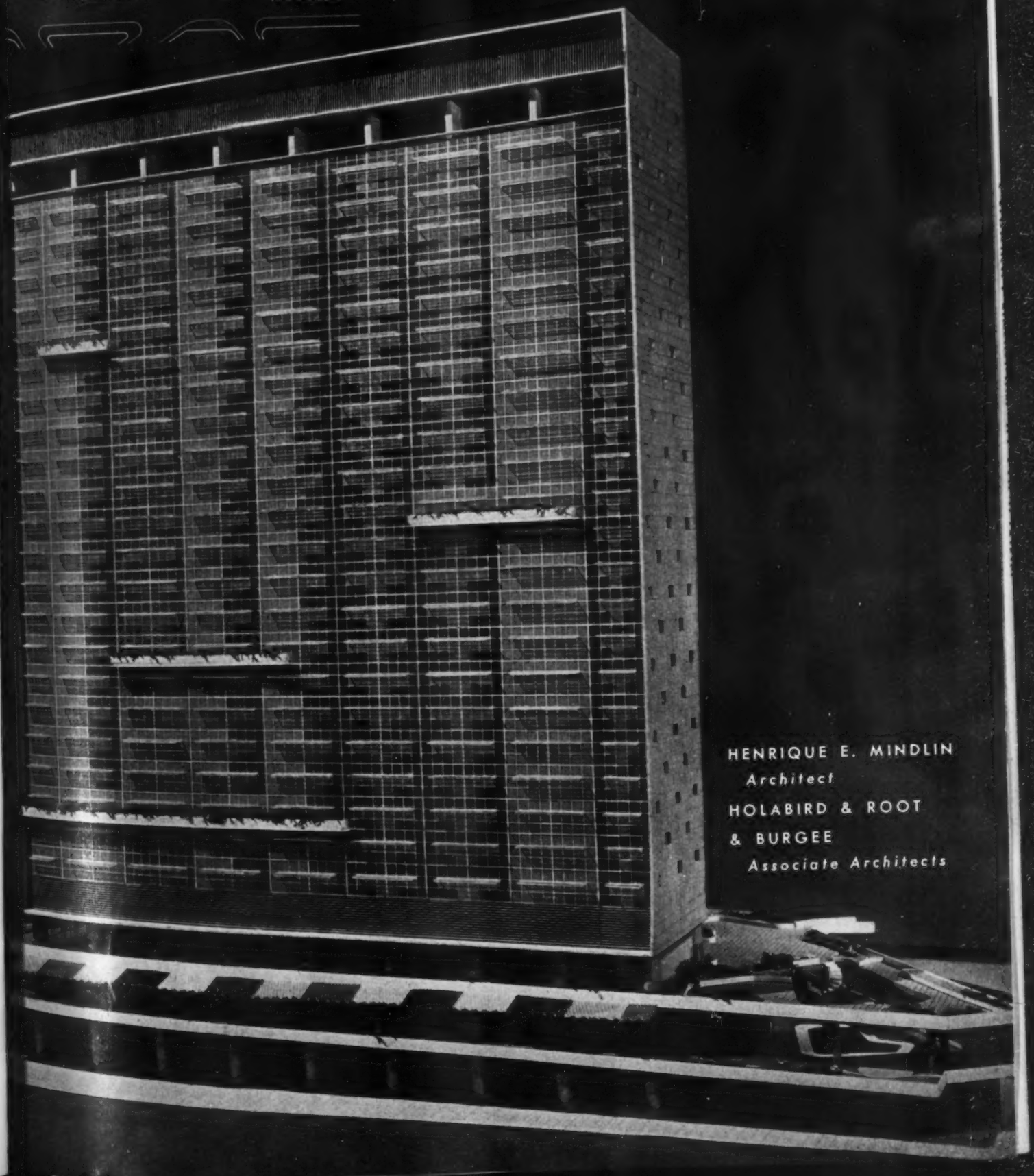
(*Continued on page 354*)

ARCHITECTURAL RECORD

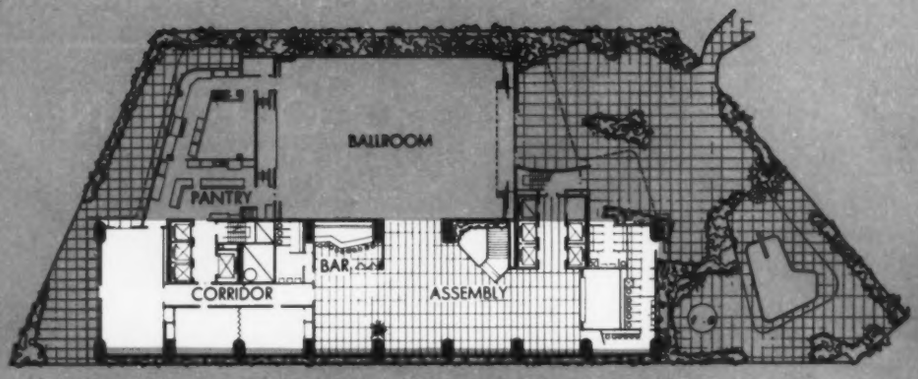
HOTEL COPAN

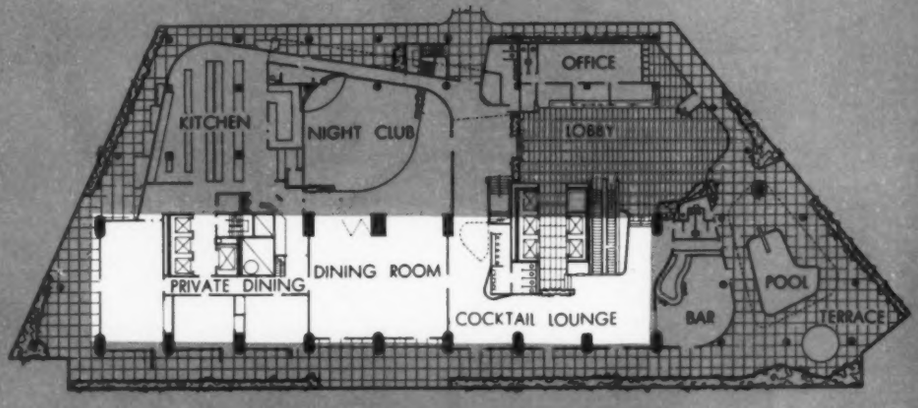
SÃO PAULO, BRAZIL

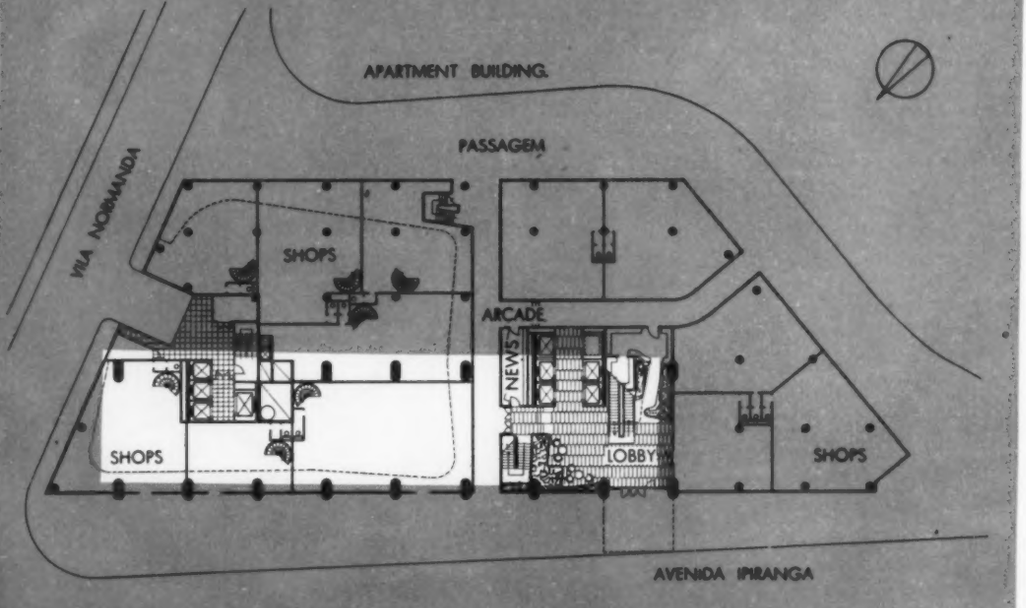




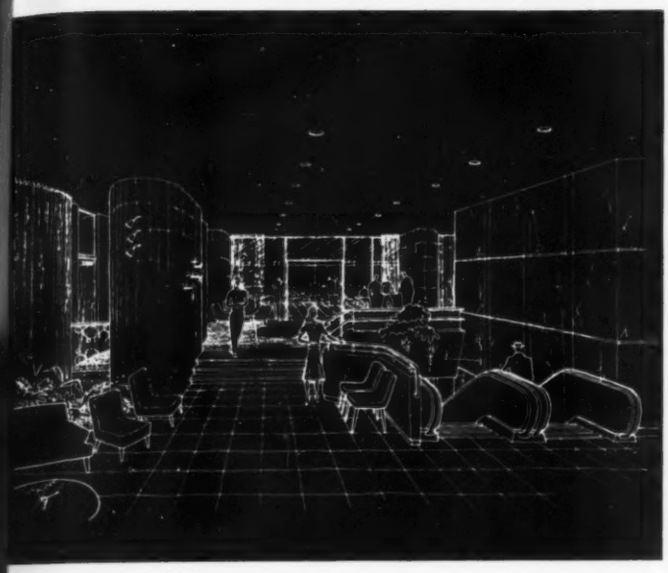
HENRIQUE E. MINDLIN
Architect
HOLABIRD & ROOT
& BURGEE
Associate Architects


BALLROOM
PANTRY
BAR
CORRIDOR
ASSEMBLY


OFFICE
KITCHEN
NIGHT CLUB
LOBBY
PRIVATE DINING
DINING ROOM
POOL
COCKTAIL LOUNGE
BAR
TERRACE


APARTMENT BUILDING
PASSAGEM
VIA NOBMANDA
SHOPS
ARCADE
NEWS
SHOPS
LOBBY
SHOPS
AVENIDA IPIRANGA
5 0 10 20 30 40 FT
5 0 5 10M


Bill Hedrich, Hedrich



HOTEL COPAN: SHOPS, PUBLIC AREAS

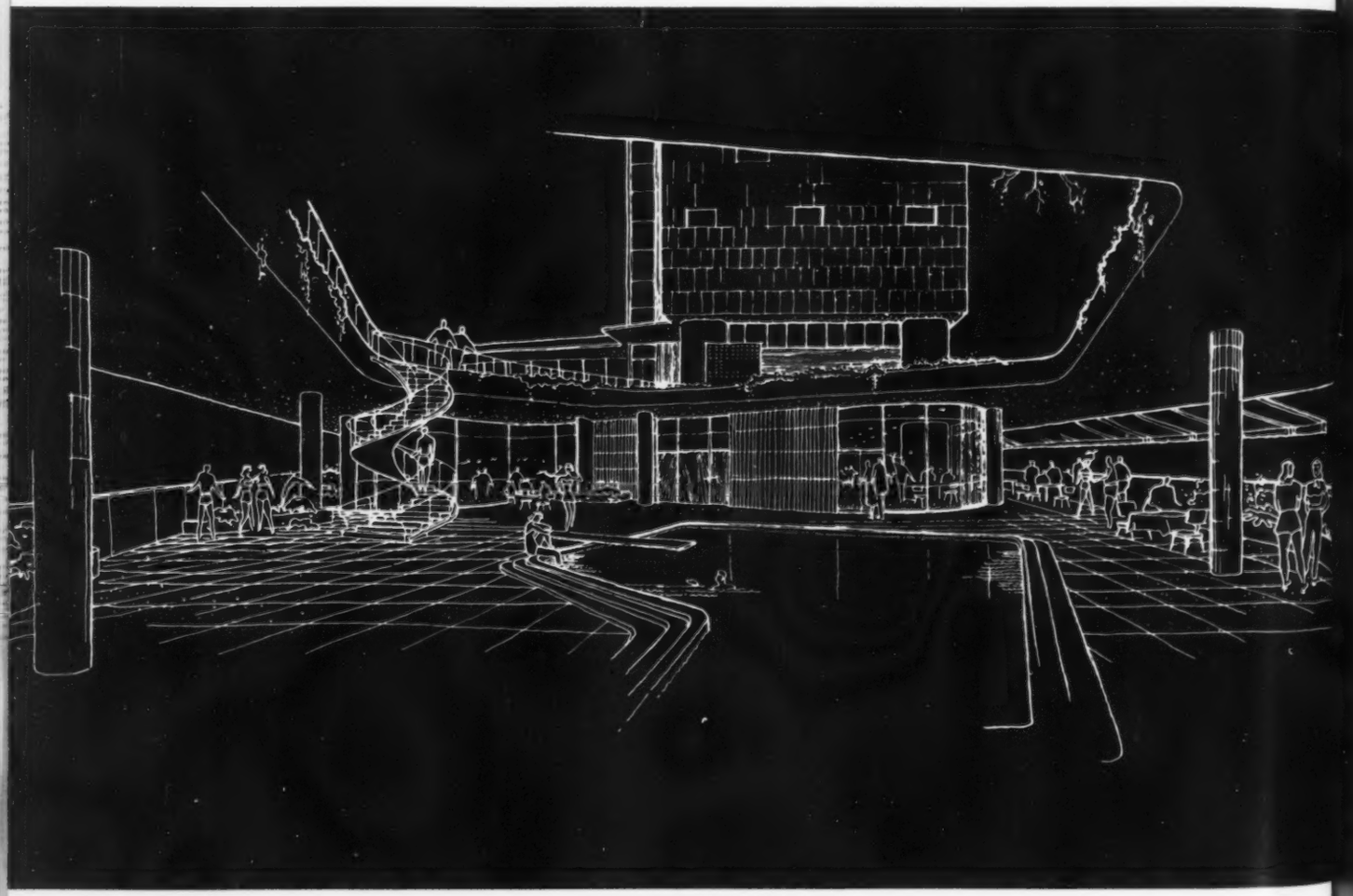
SÃO PAULO, which has two and a half million people and is growing, is the center of Brazil's industrial area, the greatest concentration of industry in South America. Yet it has lacked adequate hotel accommodations; and due to its location, climate and transportation as well as the city's progressive character, it needs social and convention facilities. One evidence of this is the extraordinary amount of outstandingly progressive new building in São Paulo, which will celebrate its bicentennial next year.

Recognizing these factors, a Brazilian company, Companhia Pan-América-Hotéis e Turismo "Copan," was formed to develop this hotel and an adjoining cooperative apartment building (the serpentine form outlined in the plans; Oscar Niemeyer designed the apartment). Copan is financing the hotel's construction; Intercontinental Hotels Corp., of New York, is overseeing design and construction, and will operate the hotel.

Ground floor and mezzanines are entirely shopping arcades. Two main hotel floors, immediately above, are treated like decks of a cruise ship with a variety of outdoor cafes, terraces, pool, gardens and arcades directly accessible to interior lounges, lobbies, front desk, dining rooms, night club

The site selected for Hotel Copan, at the intersection of Avenida Ipiranga and Vila Normanda in the heart of São Paulo, is close to the best shopping districts, principal theaters, other hotels, and night clubs. Avenida Ipiranga is the main thoroughfare to good residential areas and the airport. Three fifths of the site is occupied by the cooperative apartments previously mentioned, which are now under construction and which will become another source of hotel revenue. To an extent — in respect to use of the parking garage and public facilities — the two buildings will be interconnected.

There was left for the hotel about 29,350 sq ft of land, roughly oval in shape

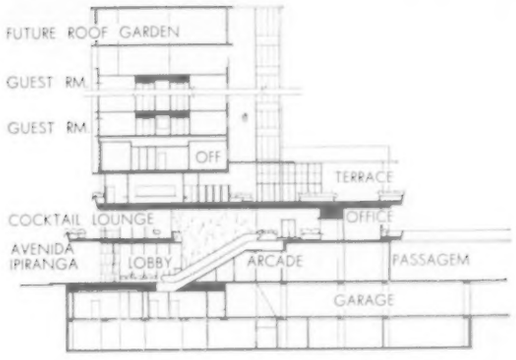


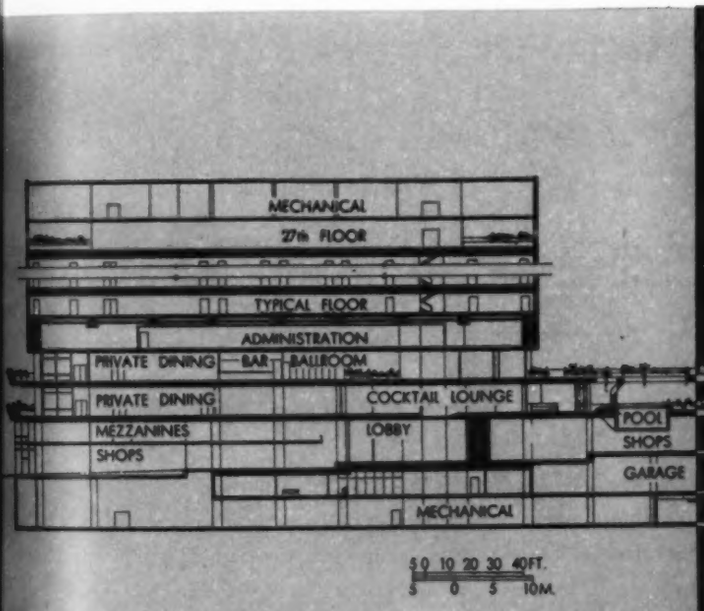
and surrounded by streets, one of them a pedestrian way. This gave the designers an opportunity to produce a building without, so to speak, a front or back.

The design as developed provides 600 guest rooms in a variety of sizes, arrangements, appointments and rates. To serve its thriving community, it has a complete floor of facilities for conventions, exhibitions and public functions beyond the generous provision of lounges, terraces, dining, and allied services on the floor below. Being quite different in character and in operation, the two principal units — guest rooms and public areas — are treated architecturally as distinct yet complementary parts of the whole.

HOTEL COPAN:

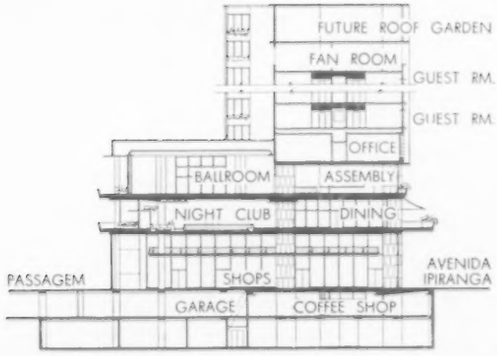
PUBLIC AREAS, ROOM FLOORS

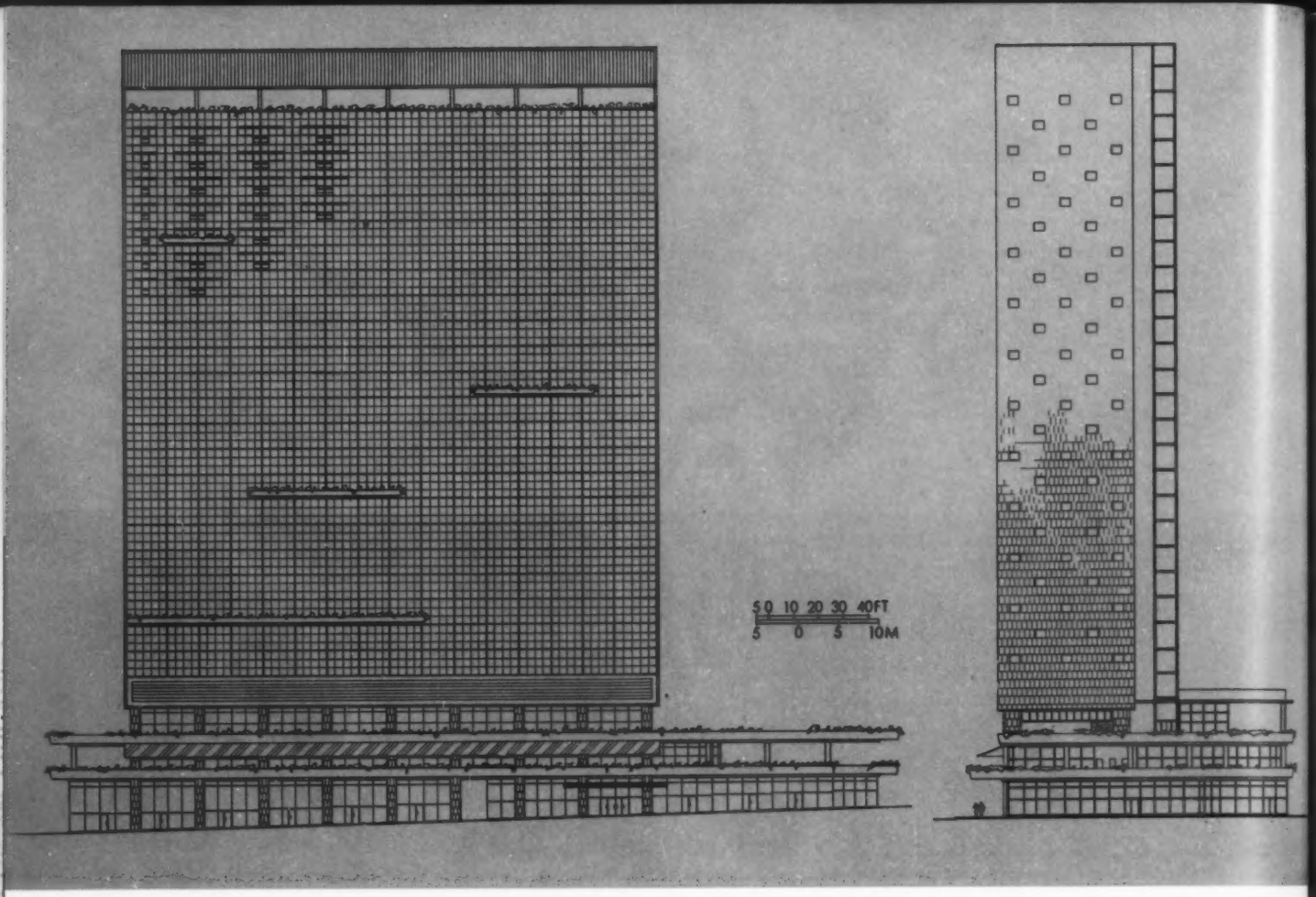




Bill Hedrich, Hedrich-Blessing

Above the 7-meter-high ground floor required by local regulations and the "decks" of public areas, the 22 floors containing 600 guest rooms form a colorfully treated vertical slab (see following pages). Drawing opposite shows swimming pool



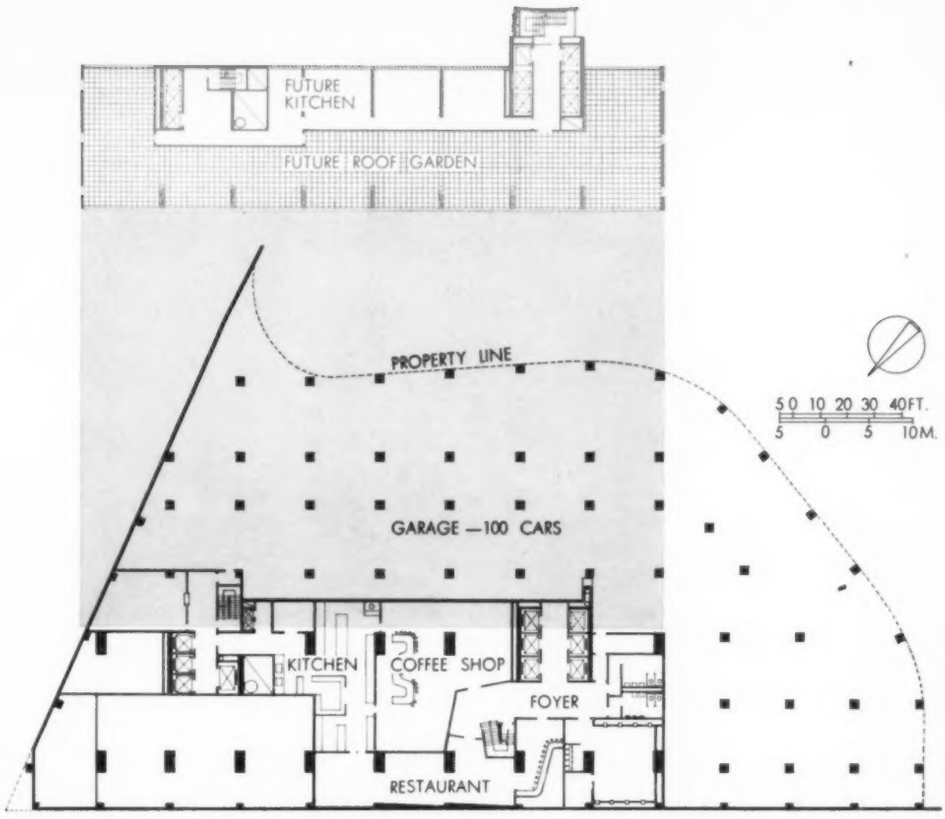


In arriving at decisions on design, Intercontinental and the architects evaluated not only local needs but also increasing tourist travel and its possible effects; for instance, guests from abroad will probably demand heating and air conditioning; these have been included although they are relatively new to São Paulo. Physically, the building is a vertical slab of guest rooms surmounting three horizontal decks of shops and public areas, topped by a future roof garden (see plan, top of facing page) and with a basement garage. The guest room block, structurally the work of Brazilian engineers, has no conventional columns; instead it consists of bearing walls and flat slabs. Below this is a transition floor (not shown) containing offices and equipment space; here loads are transmitted to the lower pairs of huge columns visible in the plans. Foundations are piling.

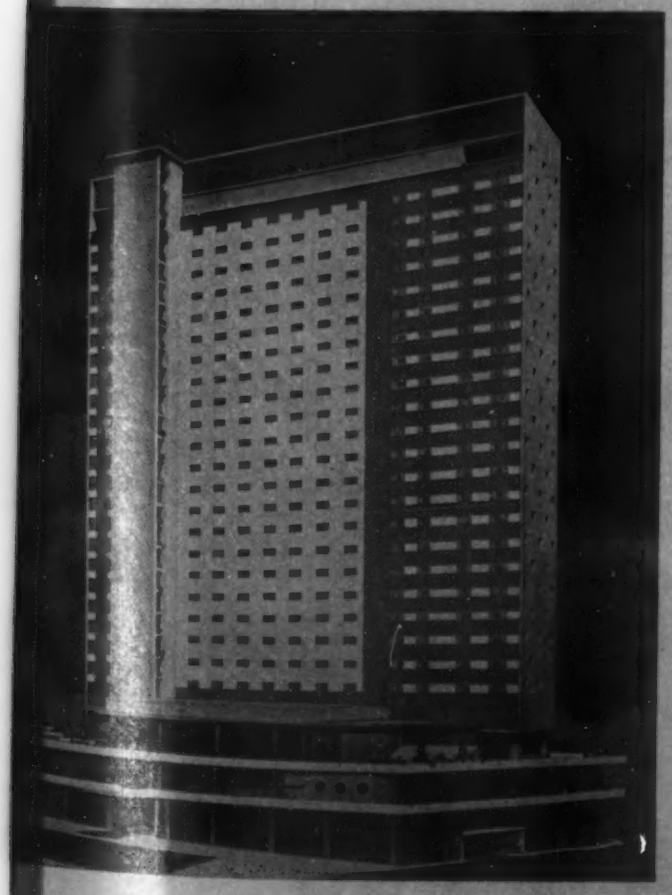
Design was the joint responsibility of Henrique Mindlin of Brazil, Holabird & Root & Burgee of Chicago, with Helmuth Bartsch of the U. S. firm in charge, and Intercontinental Hotels Corporation of New York. The building now being erected is colorful, commercially feasible and — with its sparkling multitoned façade and gay lower decks — a distinctive addition to its city's architecture.

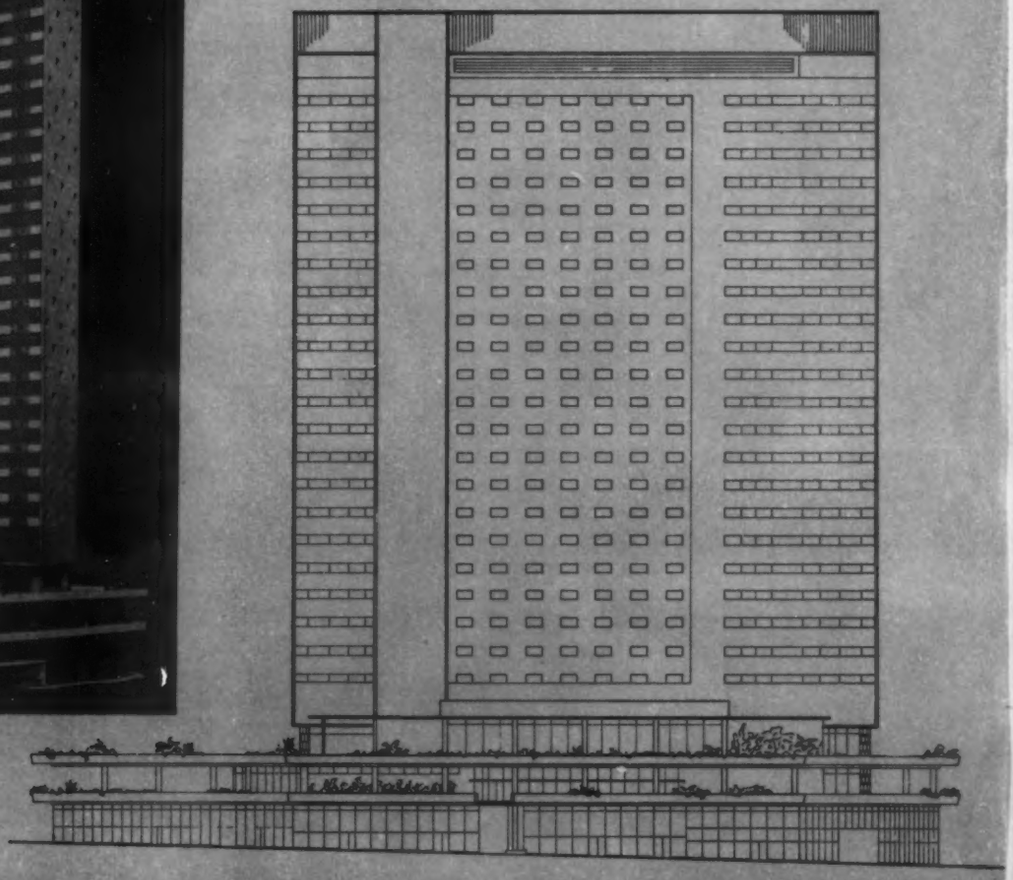
HOTEL COPAN: DEVELOPMENT OF DESIGN

Main guest room block, free of lower "decks," rests on pairs of columns each about 8 by 4 ft and 25 ft apart. Basement garage (plan, lower right) for 130 cars continues under adjoining apartment building

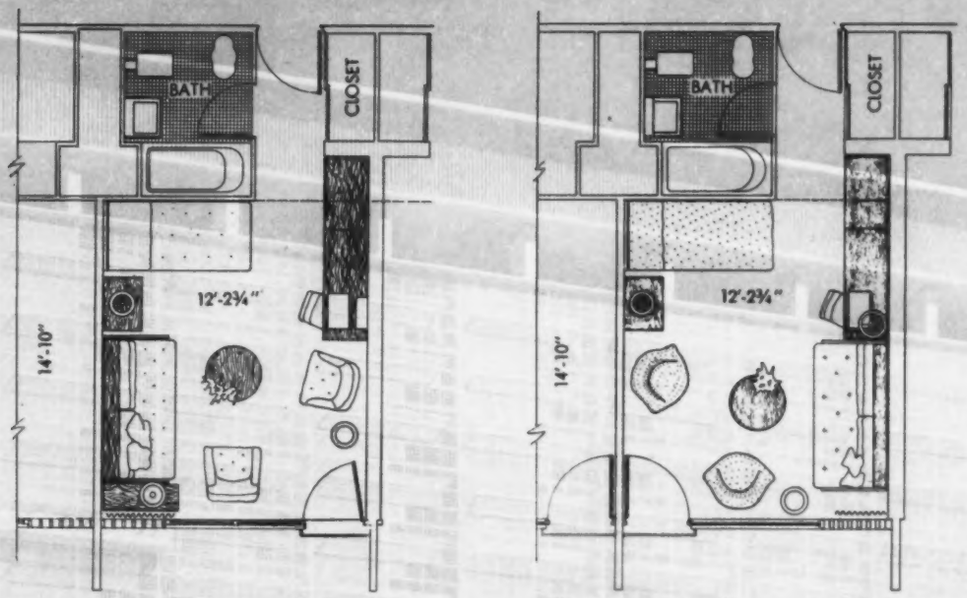


Bill Hedrich, Hedrich-Blessing

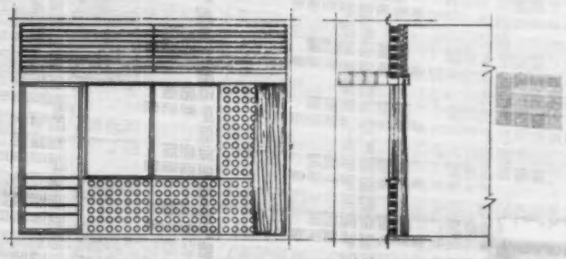




5 0 10 20 30 40FT
5 0 5 10M.

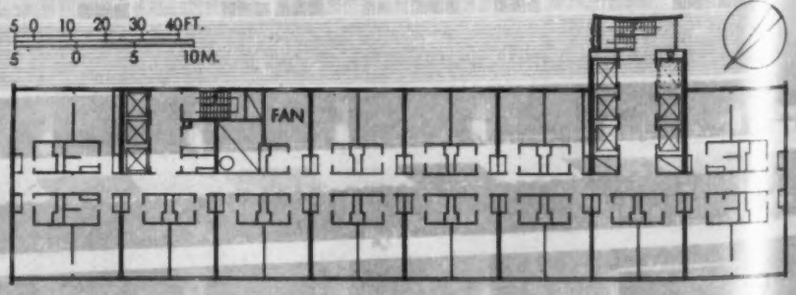


HOTEL COPAN: GUEST ROOMS, FACADE



Typical room plans and sections, above; each room has a view window, horizontal sliding sash. Non-glass exterior wall areas are concrete block, 3 by 3 ft, interspersed with 2½-in. round colored glass inserts which will harmonize with interior and form a varying exterior pattern, particularly at night when lights are lit. Area of a single room is shown by dark brown rectangle, above at right

Typical Guest Room Floor



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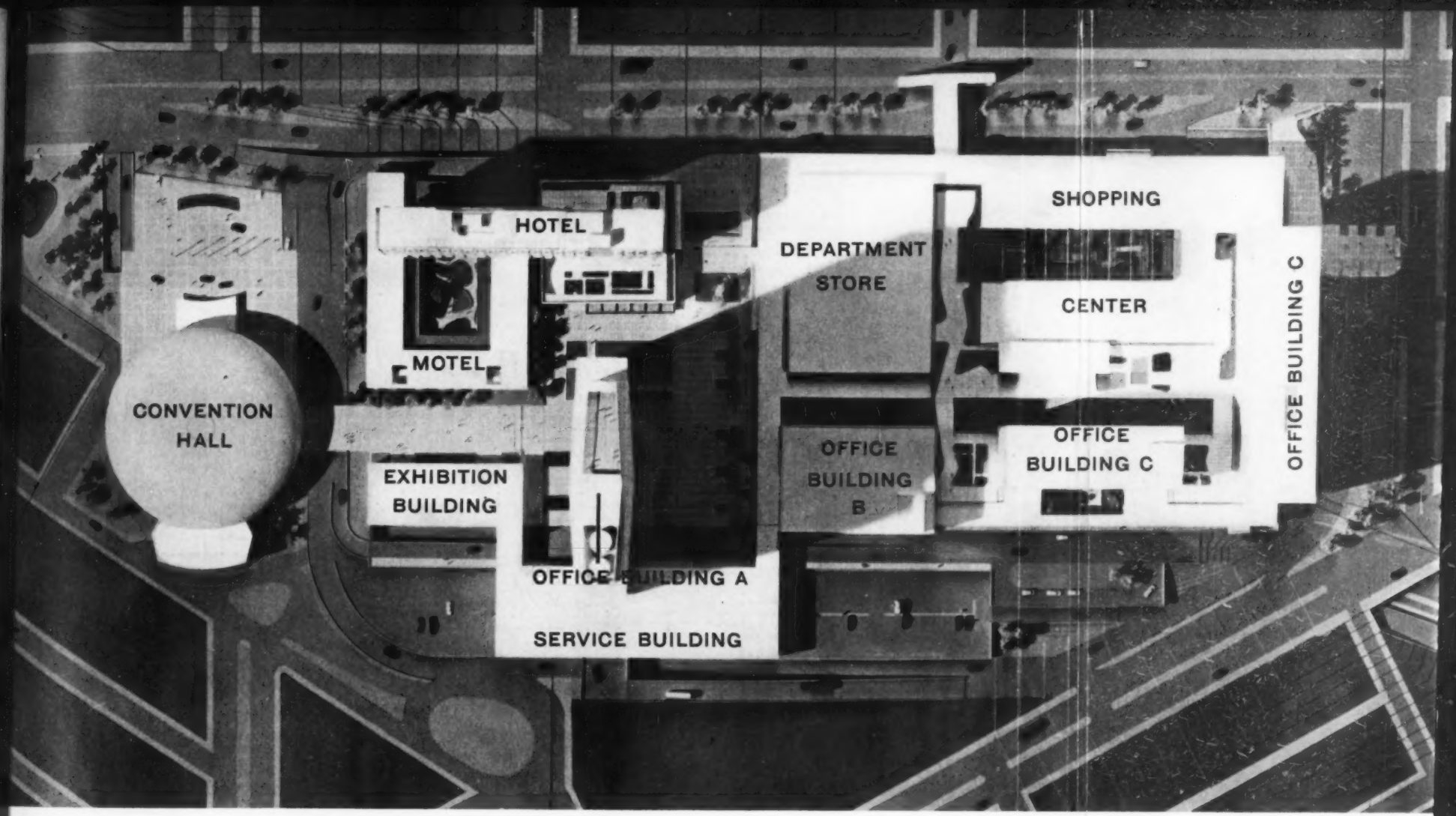
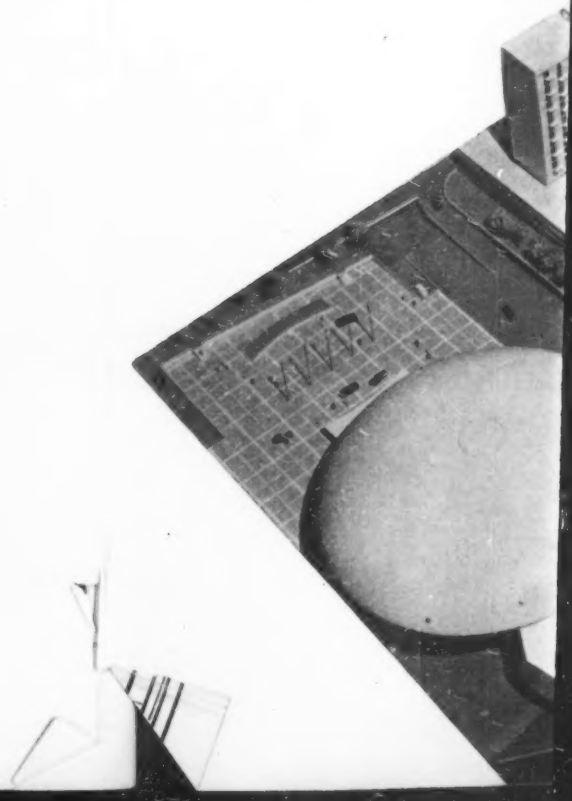


Model of proposed $75,000,000 Boston Center, planned to occupy the 30-acre site of the old Boston & Albany Railroad yards in the Back Bay section, recently purchased by Roger L. Stevens



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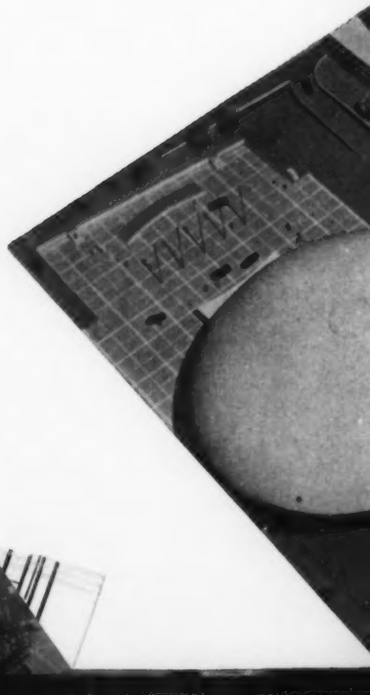


BOSTON'S BACK BAY CENTER

FOR STEVENS DEVELOPMENT CORPORATION

Architects:

Boston Center Architects

Pietro Belluschi

The Architects Collaborative

Walter L. Bogner

Carl Koch and Associates

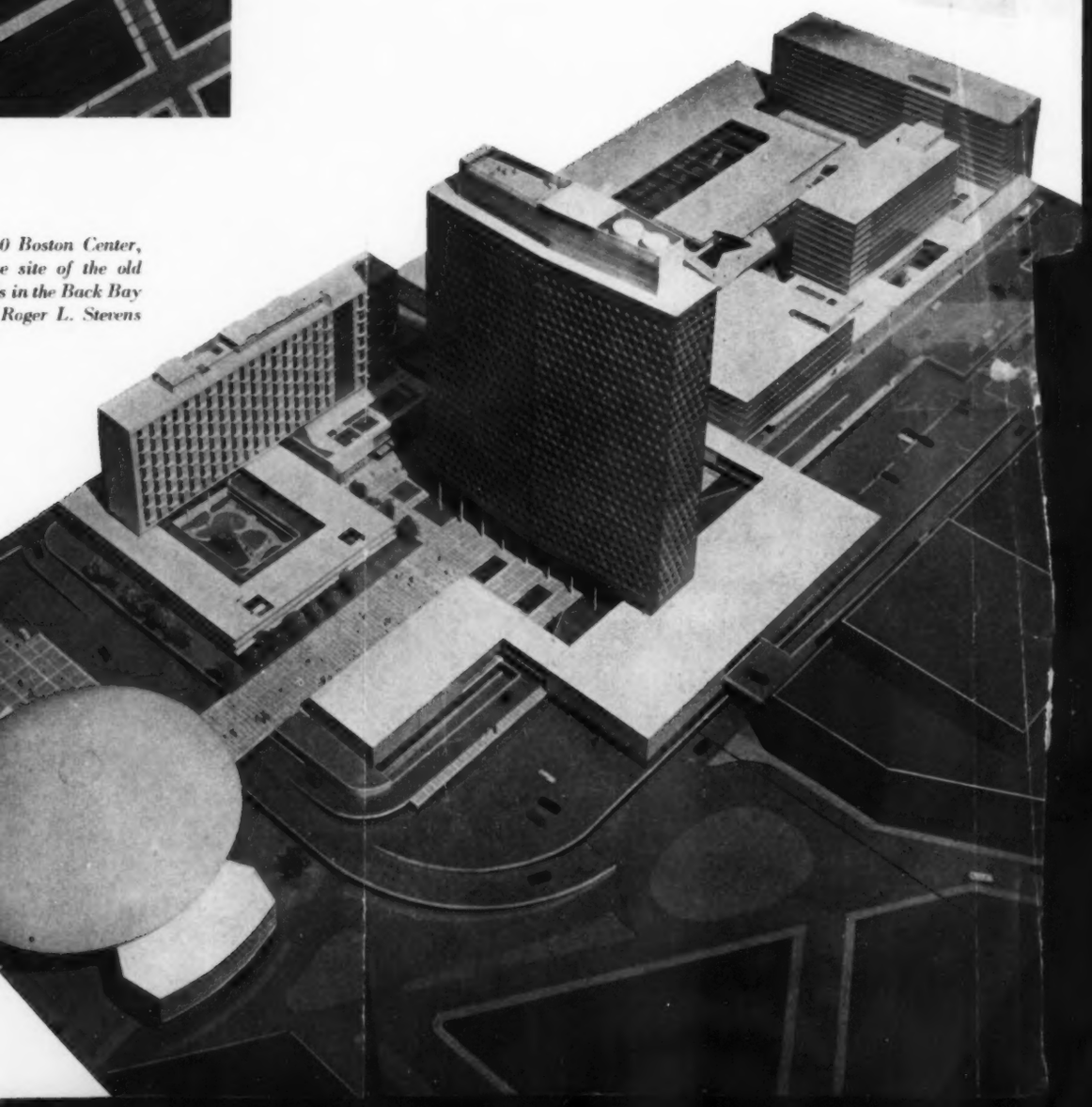
Hugh Stubbins, Jr.

Consulting Engineers and Construction Managers:
Stone & Webster Engineering Corporation

Real Estate Agents:
R. M. Bradley & Company, Inc.; Albert B. Ashforth, Inc.
Realty Mortgage and Investment Corporation

Economic Consultant:
Kenneth C. Welch, F.A.I.A.

Traffic and Parking Consultants:
Wilbur Smith & Associates



0 Boston Center,
e site of the old
s in the Back Bay
Roger L. Stevens

BOSTON'S BACK BAY CENTER (Continued)

A great architectural charette was finished just in time to present, last month, an early model of the Boston Center, a contemporary version of the Rockefeller Center concept. The proposed center, a great gleam in the eyes of Roger L. Stevens, realty mogul, and Mayor John B. Hynes of Boston, is to occupy the 30-acre site of the Boston & Albany Railroad yards in the Back Bay section. It will be developed with a group of four office buildings, combined hotel and motel, department store and shopping center, convention hall, exhibit building, and the world's largest underground parking area, to house 6000 cars. Costs are estimated at $75,000,000.

It all started with an announcement that the railroad yard was available, and actually the first gleam was put on paper by a class of architectural students at Harvard. Others soon realized that this site presented a once-in-a-lifetime opportunity for civic development, and it is now blessed with the combined push of five famous names in architecture, the mayor, the interested promoters and an imposing array of real estate talent.

While some shaking down is still indicated in the design, the model carries initial planning pretty well through the major problems, toughest of all being the traffic of some 70,000 people and 6000 cars per day, on a site that will still be bisected by a railroad. The scheme contemplates a ring road around the site, with various drives to reach the two- and three-level underground parking, with elevator and moving stairway access to the upper levels and various buildings.

A midtown motel, hooked onto a large hotel, is a bold proposal. It will be a true motel, designed to encircle the hotel garden with a r
of motel rooms.

A midtown sh
innovation seek
automobile belo
said that the sho
to shops is uneq
center outside th
within a 500-ft
department stor
destrian-only sh
trees and prome
with a huge skyli

A convention
Glaser, architec
city's undertaki
the Center itself

If the projec
old Boston, it
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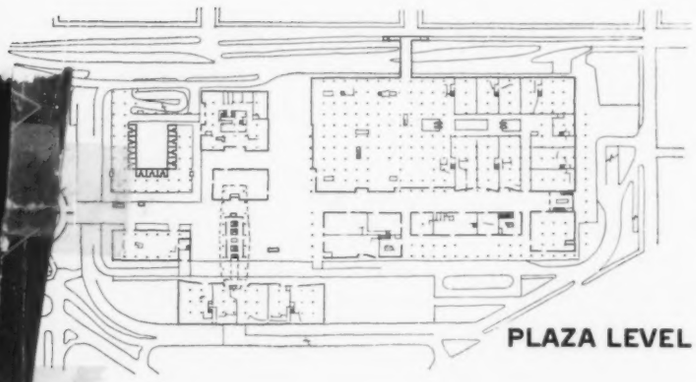
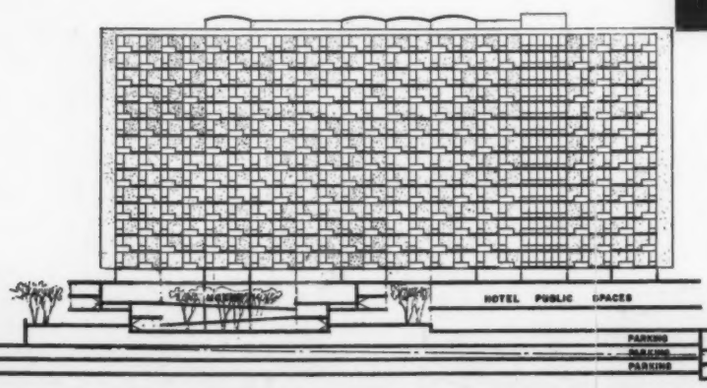
its attempts to
but also to bright

Early studies concentrated especially on traffic and parking. There are two sub-grade parking levels over the entire site, a third level over roughly half. The railroad track will bisect the site, from corner to corner



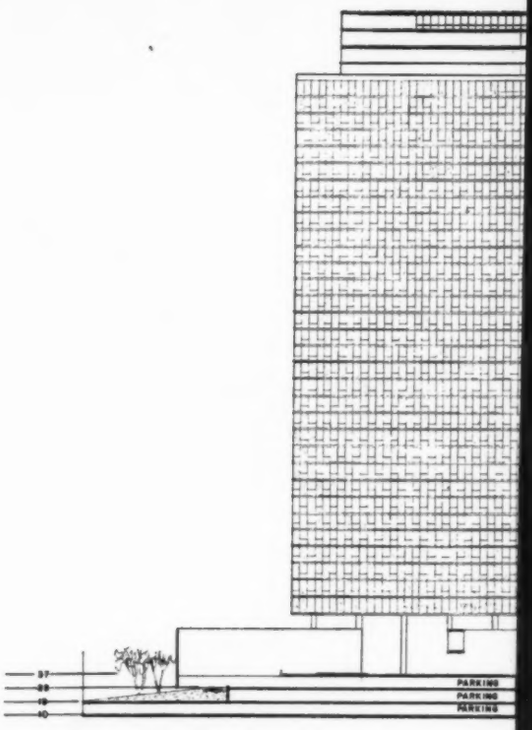
PLAZA LEVEL

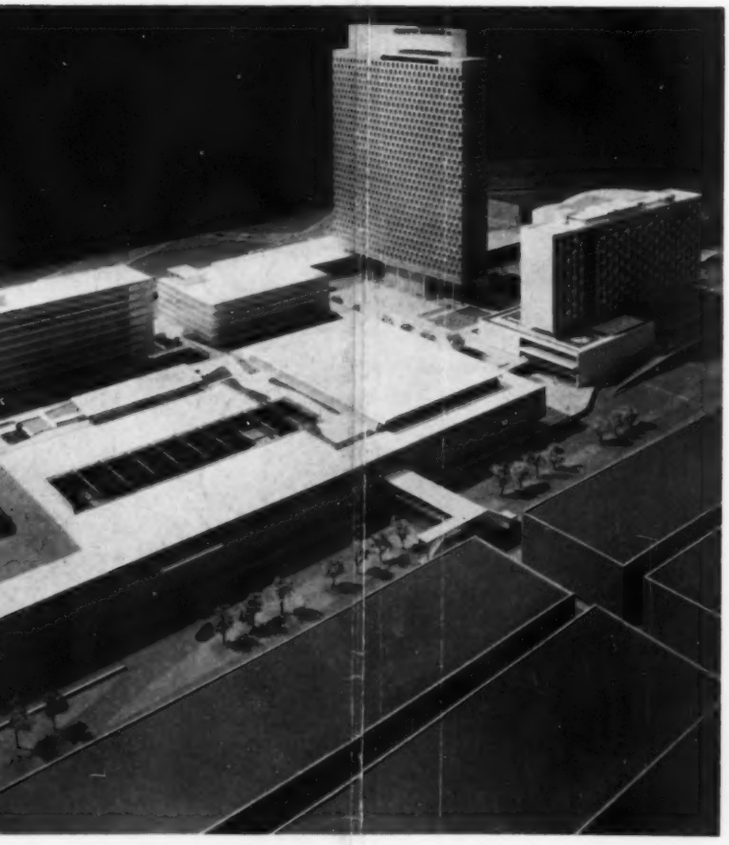
Office buildings are tentatively planned, but façades and fenestration wait on final determination of space use and occupancy



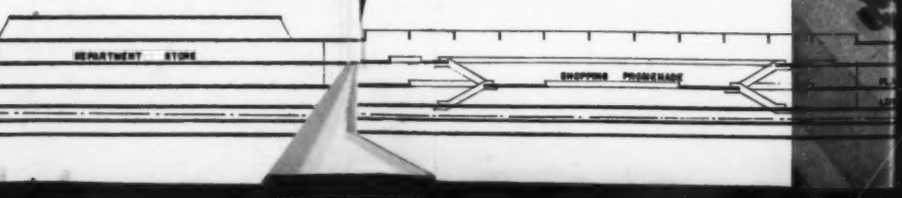
LONGITUDINAL SEC

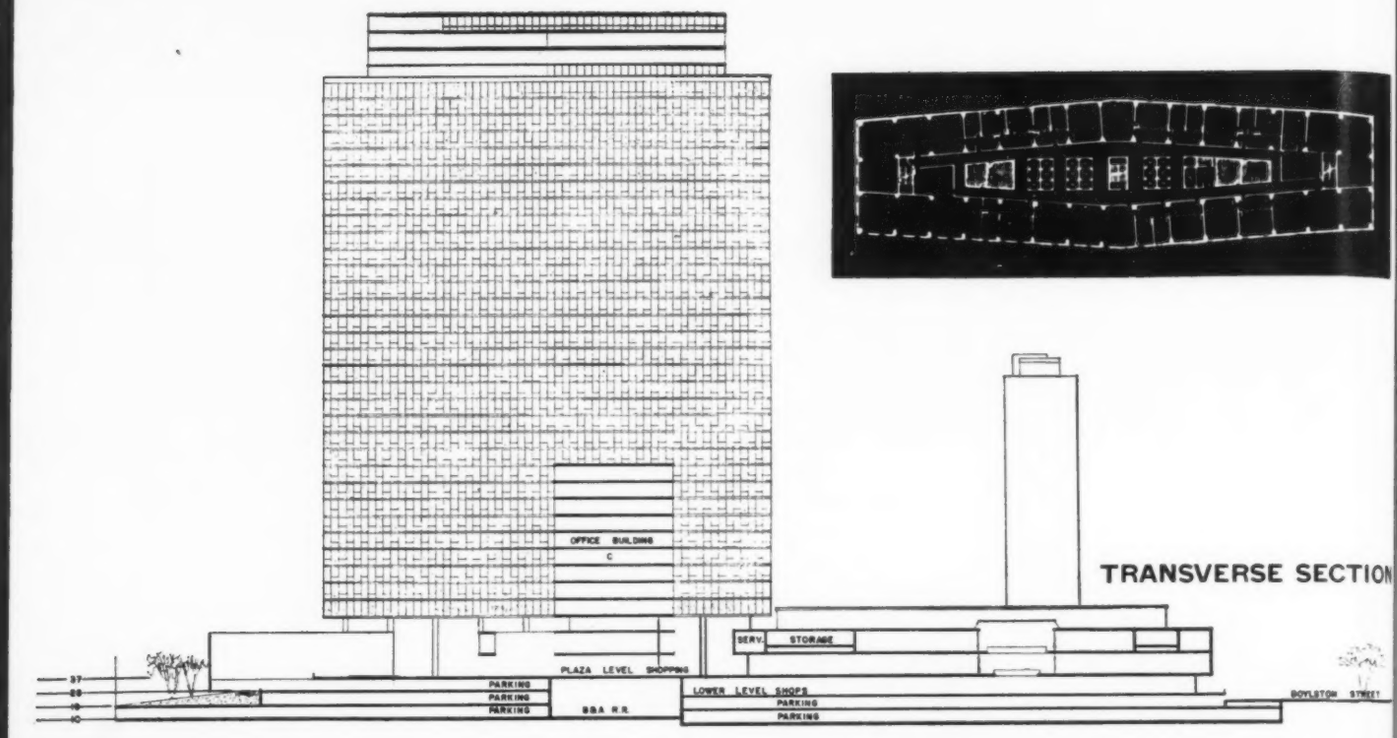
n with a roadway and two levels
otel rooms.
midtown shopping center is another
ation seeking to prove that the
nobile belongs in the city. It is
hat the short distance from parking
ops is unequalled in any shopping
r outside the city. All shops will be
n a 500-ft circle and adjoining the
tment store. There will be a pe-
an-only shopping plaza with pools,
and promenades, all covered over
huge skylight and air conditioned.
onvention hall, designed by Samuel
r, architect, is proposed as the
undertaking, in an area west of
enter itself.
the project is exciting to staid
Boston, it will be extremely in-
ing to architects, not only for
tempts to citify the automobile
so to brighten the downtown scene.





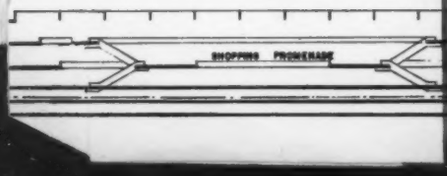
AL SECTION TOWARD BOYLSTON STREET





TRANSVERSE SECTION

YLSTON STREET



"THE SPIRIT OF THE NEW ARCHITECTURE"

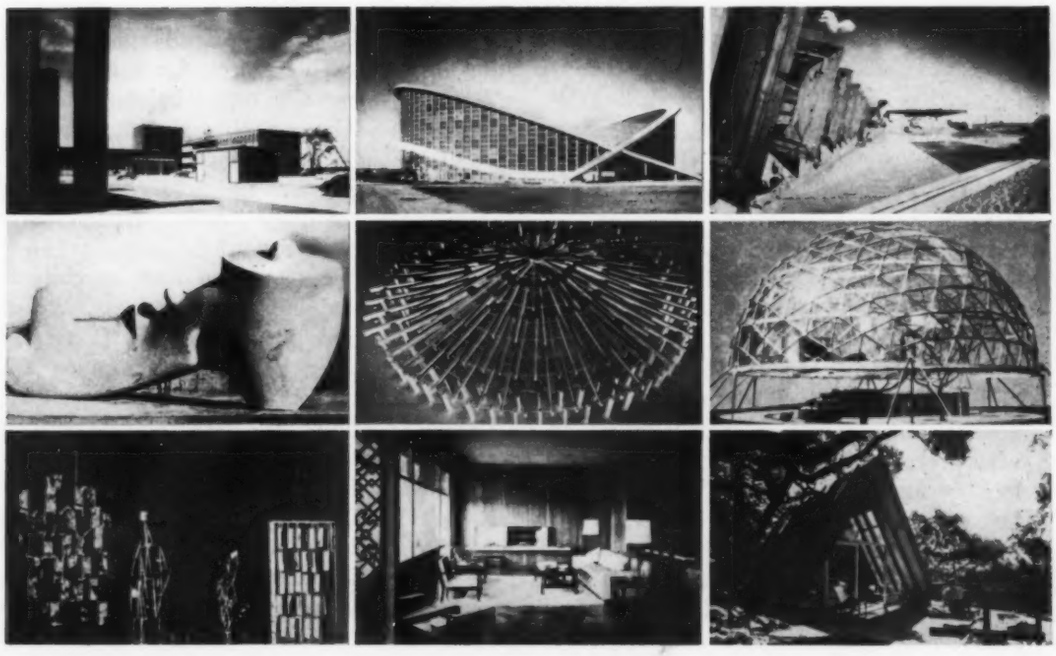
by PIETRO BELLUSCHI

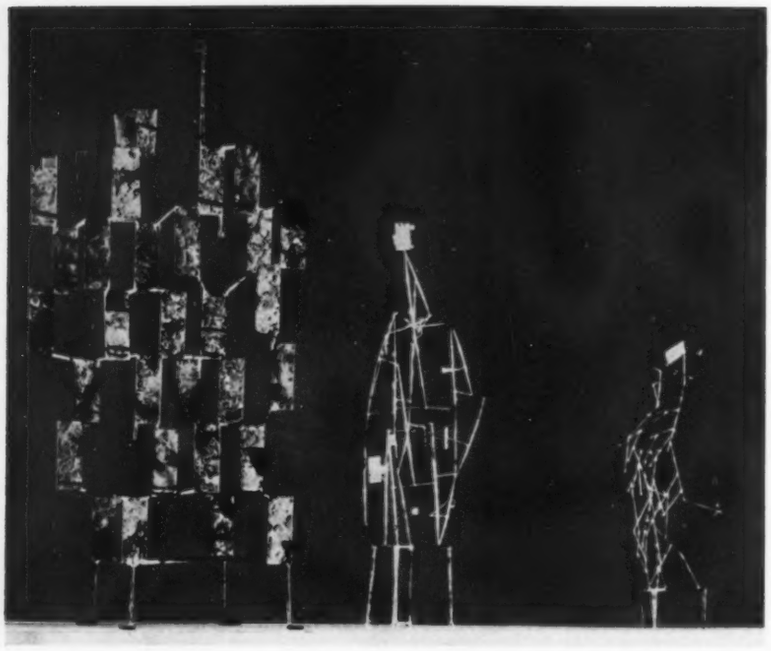
IN SPEAKING OF NEW ARCHITECTURE, I shall not be satisfied to list recent buildings, or to argue on the Museum of Modern Art's selections, or to describe unfamiliar or fashionable externals which may have caught the eyes, fancy, or indignation of our magazines.

I shall keep the number of introductory words to a minimum — in fact I will say just enough to explain what is least susceptible of explanation, namely: "The Spirit of New Architecture." Great architecture is always a Unity and cannot be explained or dissected into parts. Only historians dare formularize its expressive power; yet we may find it expedient to view such a Unity from three different vantage points.

Nor shall I take the time to define the more obvious virtues of architecture, be it new or old, such as space, scale, divine proportions or color, textures, and ornament; because I take for granted that they form a permanent vocabulary without which architecture could not make itself manifest. Today I would rather like to point out to you what I believe to be the more fundamental attempts of our age to express itself

An address by Pietro Belluschi, Dean, School of Architecture and Planning, Massachusetts Institute of Technology, before the recent national convention of the American Institute of Architects





"NEW ARCHITECTURE" — *PIETRO BELLUSCHI*

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through new forms and the process which we ourselves must undergo to allow such forms to be absorbed into our esthetic tradition.

In so doing I shall be careful not to assume that all changes are for the better or that all are worth being recorded and absorbed. I could, for instance, show photographs of prominent skyscrapers built 30 years ago or more and compare them with others of recent vintage and find little or no real advance. But I do not wish to be cynical or destructive because our general belief in ascending progress is one of the sources of our strength and vitality as a nation, and furthermore we need all the optimism we can muster to proceed in our work.

I have often said to anyone willing to listen that architecture must give satisfaction to the mind as well as to the senses in order to be of lasting significance, but we all have found that logic alone is not enough — like the virtue of simplicity, logic can be the last refuge of the dullard and of the ungifted; and he who has nothing but common sense will be apt to be moving within the limits of mediocrity, although conversely lack of logic and abuse of fantasy can also be the last refuge of the charlatan and the unsensitive.

I have also repeatedly and rather belligerently stated my belief that Architecture is not a Pure Art since it has practical boundaries and duties which it must acknowledge, satisfy, and respect.

At the risk of appearing inconsistent, I shall say to you that Architecture could not long last as a non-pure Art if it did not forever tend to trespass into the preserves of Pure Art. So we must accept and record as one of the aspects of "New Architecture" the striving of a few great artist-architects towards new and valid esthetic symbols by which future generations may remember us.

This search for symbolic expression has been an instinctive and universal urge of mankind from time immemorial, and has generally defied precedent and the limitations of daily practicality. In the past it has given us the dome, the spire, the colonnade, and all the other familiar appendages of the traditional city scape beautiful.

In its pure form, architecture is poetry, music, and imaginative release. We owe all creative artists and poets our deepest respect; we should forgive their protective arrogance and consider them the mirrors of the human spirit of our age, which as in other ages likes to reveal itself under a cloak of dissent.

On the other hand, it must be equally clear that if architecture were allowed to take permanent flight from the realities of life, it would not only soon become decadent for lack of the nourishment which its roots must have from life, but it would also leave a large void in the everyday physical environment of human society which is itself built of earthy motives

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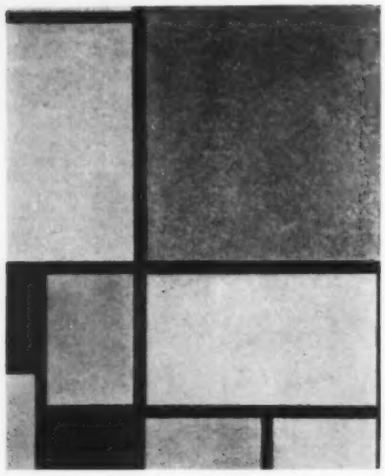
and necessarily moves within earthy boundaries.

Some 90 years ago, upon founding the first School of Architecture in America at the Massachusetts Institute of Technology, William Ware remarked that "architecture resembles literature in that both range all the way from mere work of necessity, such as shelter from the elements for one and communication for the other, up to pure form, such as the monument or the poem, at which level they may consort with the pure arts of music, sculpture, and painting; but they have an intermediate level above utility and still utilitarian, and below poetry but still artistic — the region of good sense, good taste, of knowledge, and skill — in literature as clear, graceful, and intellectual style — in building simplicity, elegance, and common sense — in both a work which cannot wait, but which must be done."

It seems to me that the test of greatness of any artist-architect is not that he be also practical but that he allow his inspiration never to be too far removed from the demands of his age, and the emotional needs of his contemporaries. There is no doubt in my mind that in the end the fruits of pure creativeness, to serve their full purpose, must filter down and fertilize the environment of our daily lives. Similarly the esthetic symbols of our age cannot aspire to be of enduring quality unless they grow from the earth and from man, from structure and from humanity.

1. *Sculpture by Harry Bertoia (photo, H. Matter)*
2. *Leisure house, Campbell & Wong, architects (photo, Morley Baer)*
3. *Fitchburg Children's Library, Carl Koch, architect (photo©, Ezra Stoller)*
4. *Showroom for Knoll Associates (photo, Robert Damora)*
5. *Lever House, Skidmore, Owings & Merrill, architects (photo©, Ezra Stoller)*



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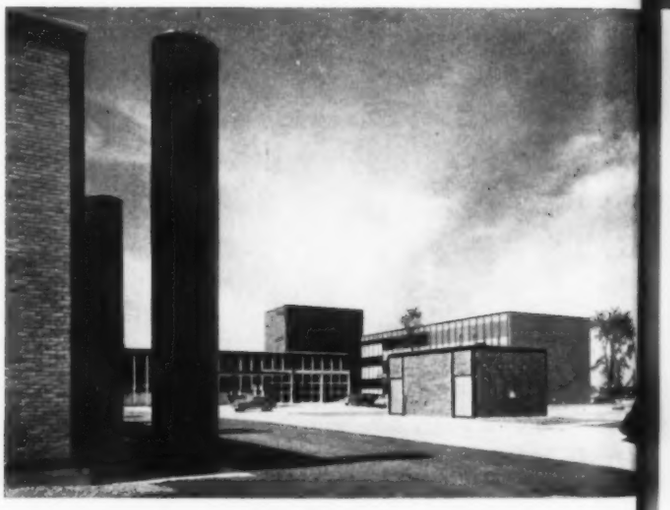

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If you agree with me thus far, then the three vantage points from which we may review our collective efforts toward a "New Architecture" are these:

First: The exploration of structure as source of form. Nature offers the greatest wealth of forms brought to life and beauty by the intrinsic need of their structure. In this age of scientific and technological advances, infinite possibilities are opening for us to exercise our imaginative powers by observing and by daring to process much of what we see into esthetic forms. Many of my slides will implicitly prove this point.

Second: Our attempts to more deeply understand human nature and to provide forms which will satisfy man's physical and emotional demands; in short, to make the nature of modern man the reference of our architectural thinking. Since the advent of the common man there has been a growing concern on the part of architects and artists to improve the environment within which the various social groups must spin the thread of their lives. This concept includes the home, the shelter of man and his family, an element full of emotional implications; it includes also the understanding and acceptance of regional architecture as a sympathetic manifestation, and as a recognition of human values peculiar to certain people and places. It also includes the development of new forms for the large urban unit — the city, brought about by the growing demands of our machine age.

Third: As I have already indicated, the attempts by the very few creative intellects to find visual esthetic symbols in a world which is in the way of losing the meaning of his destiny, in the many conflicts raised by science. Their role is to find new synthesis where there is now confusion. It is clear that our society needs poets as much as it does document writers, discoverers as much as journeymen, singers as much as speakers.

It needs men who can help bring about new and deeper understanding, who can help restore the relationship between form and matter in the spirit of poetry, which needs continually a new language to express itself. To these creative men goes the task to fill archi-

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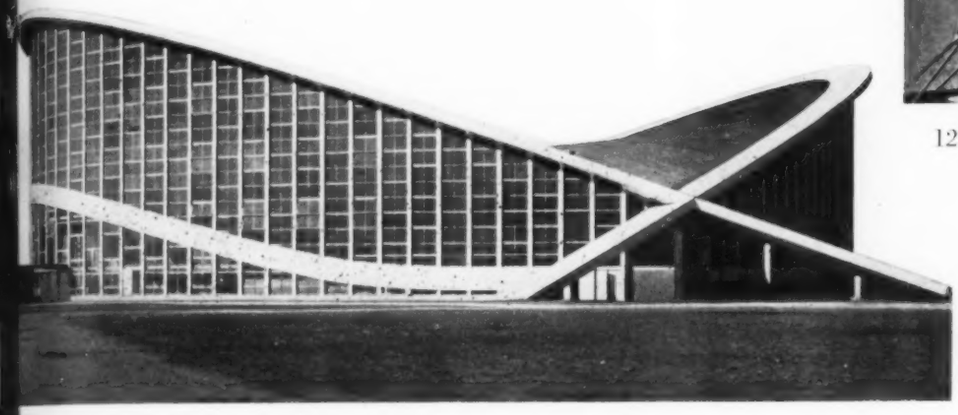

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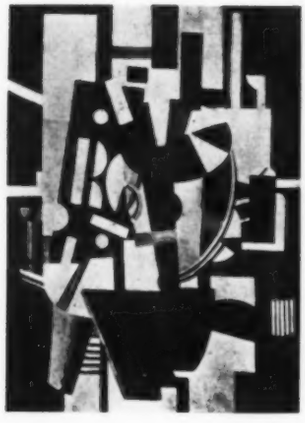

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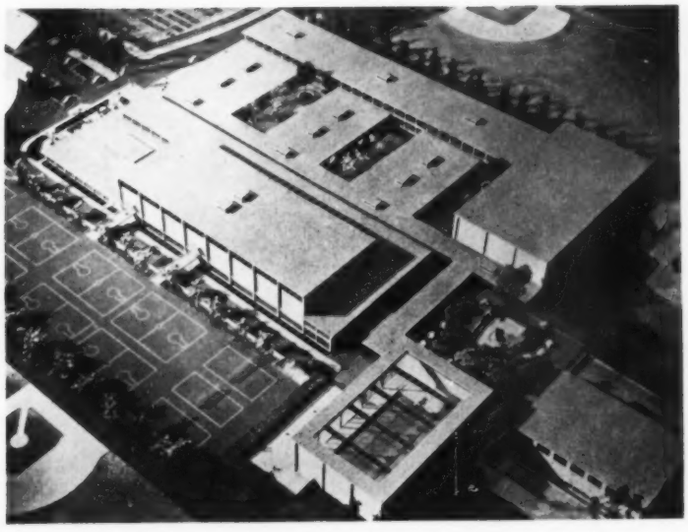

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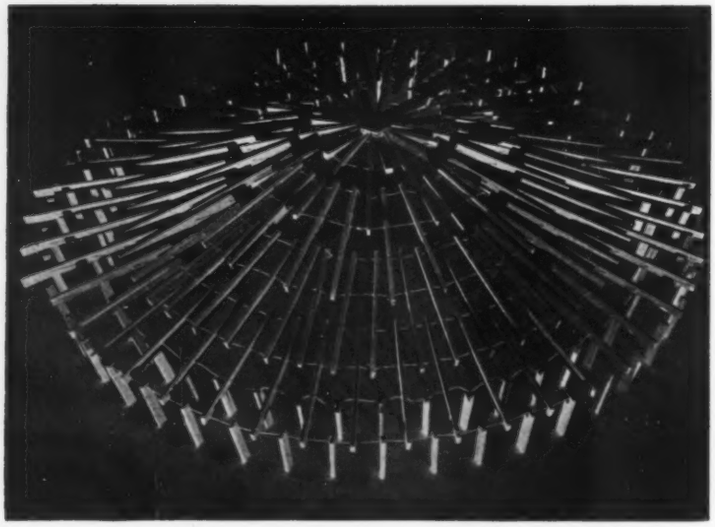
tecture with ever-changing poetic grace and make it a great civilizing force in our midst.

This showing of new ways and of new understandings can be done not only by architects but by any artist worth being called such. Any of the great moderns such as Cezanne, Picasso, Matisse, Mondrian, Moore, and Lèger have deeply affected our architecture in many unexpected ways; and we owe them more than we can repay. This point I can barely touch today, but it would be interesting to explore in greater detail.

The slides * I am about to show you are of different size and origin and not in good order and some of them relate only indirectly to architecture, but from them I hope it will be possible for you to see the three points about which I have just spoken. I shall not comment at length on any of them, and you may even draw conclusions different from my own but you will find in them what seems to me at least, a stimulus to "New Architecture."

6. *Composition by Piet Mondrian*
7. *House by Charles Eames*
8. *Taliesin West, Frank Lloyd Wright, architect (photo©, Ezra Stoller)*
9. *General Motors Technical Center, Eero Saarinen, architect (photo©, Ezra Stoller)*
10. *North Carolina State Fair Pavilion, Mathew Nowicki and William Dietrick, architects (photo, Lewis P. Watson)*
11. *Composition by Fernand Lèger*
12. *Geodesic Dome, Buckminster Fuller*
13. *Sunset Community Center, Wurster, Bernardi and Emmons, et al., architects (photo, Ernest Braun)*

* *Mr. Belluschi showed almost a hundred slides: see full list on page 149.*



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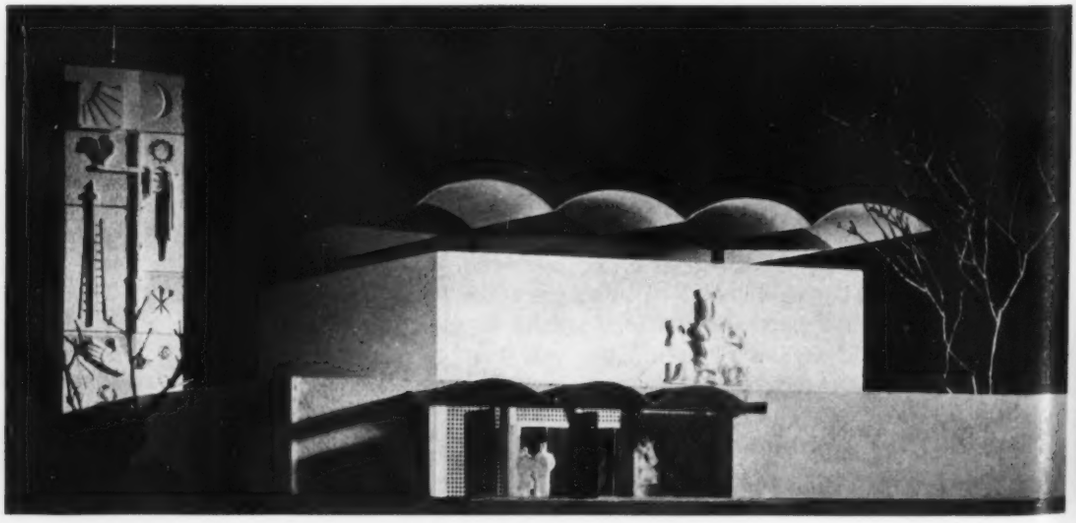

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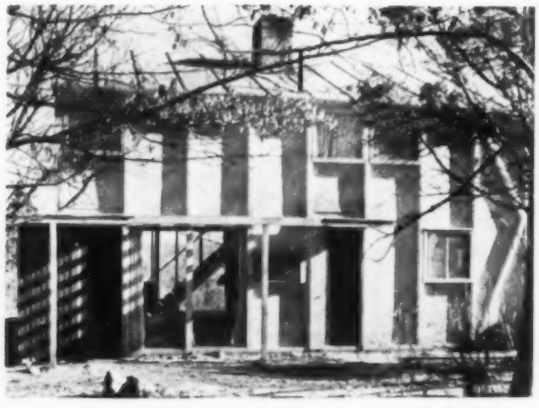

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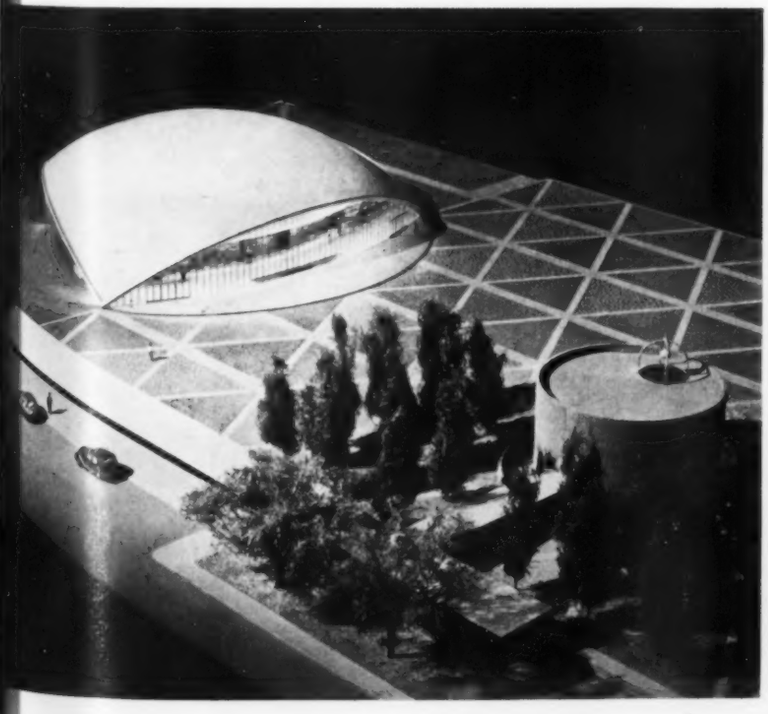

Complete list of slide illustrations used by Mr. Belluschi in his address, "The New Architecture," at national convention of A.I.A.

Grand Coulee Dam
Golden Gate Bridge
Sculpture by Bertoia (five slides)
Electric distribution structures at Grand Coulee Dam
Geodesic Dome, Buckminster Fuller (13 slides)
Unite d'Habitation, Le Corbusier (two slides)
General Motors Technical Center, Eero Saarinen (three slides)
Models of structure, Catalano (five slides)
Model of M.I.T. auditorium, Saarinen
Lever House, Skidmore, Owings & Merrill (three slides)
Garage building in Mexico
Precast lamella concrete roof, P. L. Nervi
North Carolina State Fair Pavilion, Mathew Nowicki and William Dietrick (four slides)
Model of structure, M.I.T. students
Taliesin West, Frank Lloyd Wright (two slides)
Structural ducts, Wachsman
House, Campbell & Wong (five slides)
Houses, Carl Koch (four slides)
House, George Rockrise
Sawyer house, Anshen & Allen (three slides)
Miravista school, Carl Warnecke
Sunset Community Center, Wurster, Bernardi and Emmons, et al.
University of Mexico, Gorman (three slides)
Shopping Center in Baltimore
Movie theater with Diego Rivera murals
Stone mosaic, Diego Rivera
Fitchburg Library, Carl Koch (five slides)
Planning, Wiener and Sert (three slides)
Church, Wiener and Sert (three slides)
Van Doesburg painting
Mondrian painting
Earth pattern
New York at night
Charles Eames house
Color photo time exposure by M.I.T.
Fernand Lèger painting
Knoll display room

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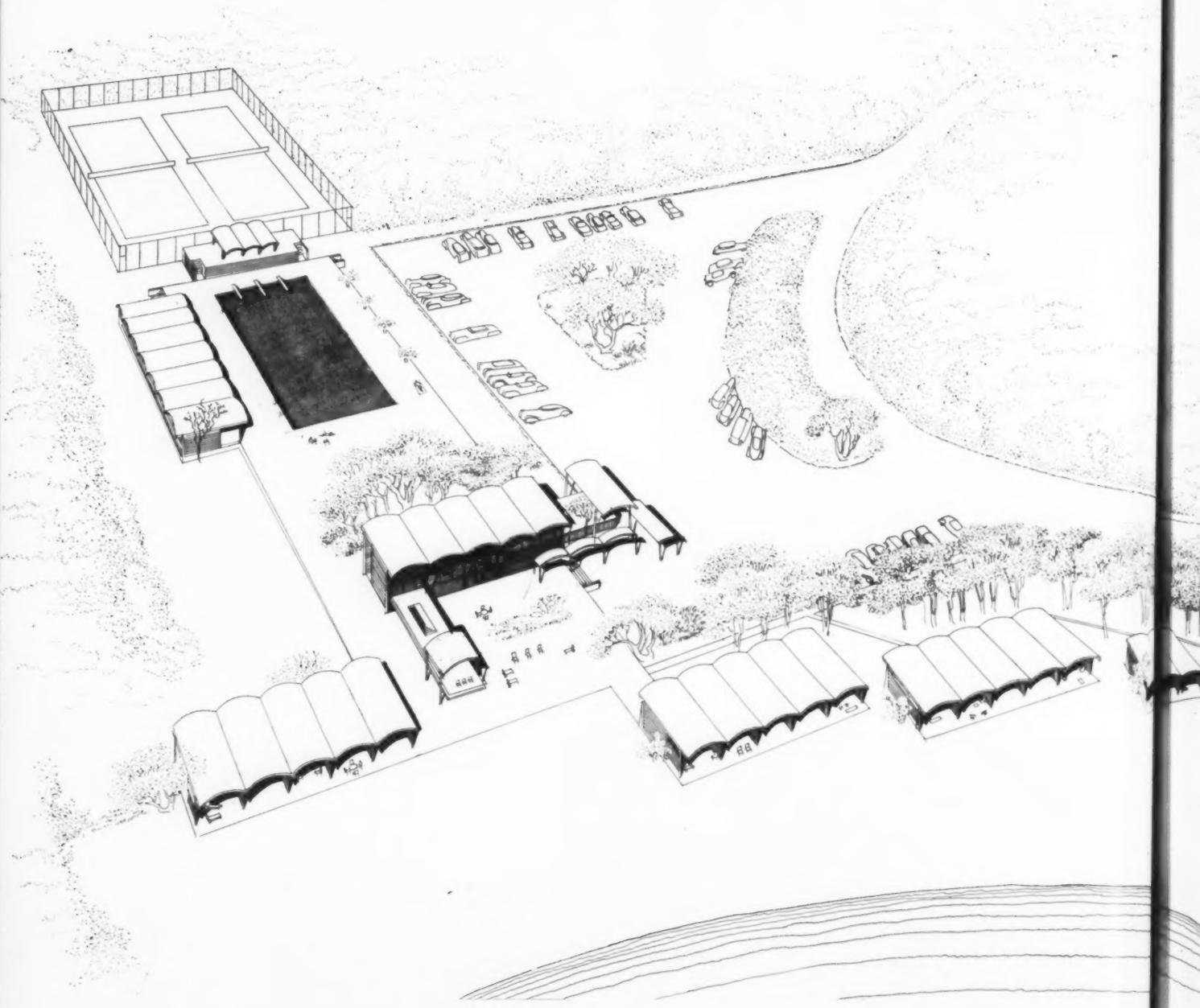
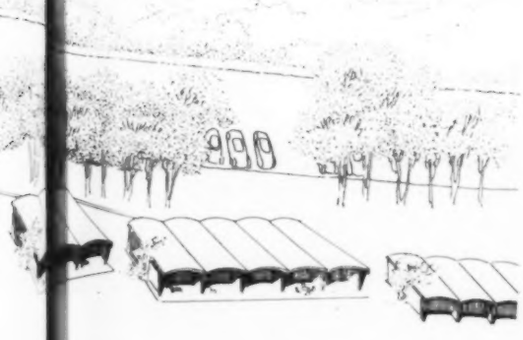
14. *Problem in structures, various M.I.T. students*
15. *Unite d'Habitation, Marseille, Le Corbusier, architect (photo, Brassai)*
16. *Reclining Figure by Henry Moore*
17. *Model of church for Ciudad Piar, Venezuela, Paul Lester Wiener and Jose Sert, architects (photo, Richard H. Althoff)*
18. *Underwood House, Campbell & Wong, architects (photo, Morley Baer)*
19. *Cemesto House, Carl Koch, Huson Jackson, Robert Kennedy, architects*
20. *Model for auditorium and chapel, M.I.T., Eero Saarinen, architect*

SANDERLING BEACH CLUB, SARASOTA, FLA.

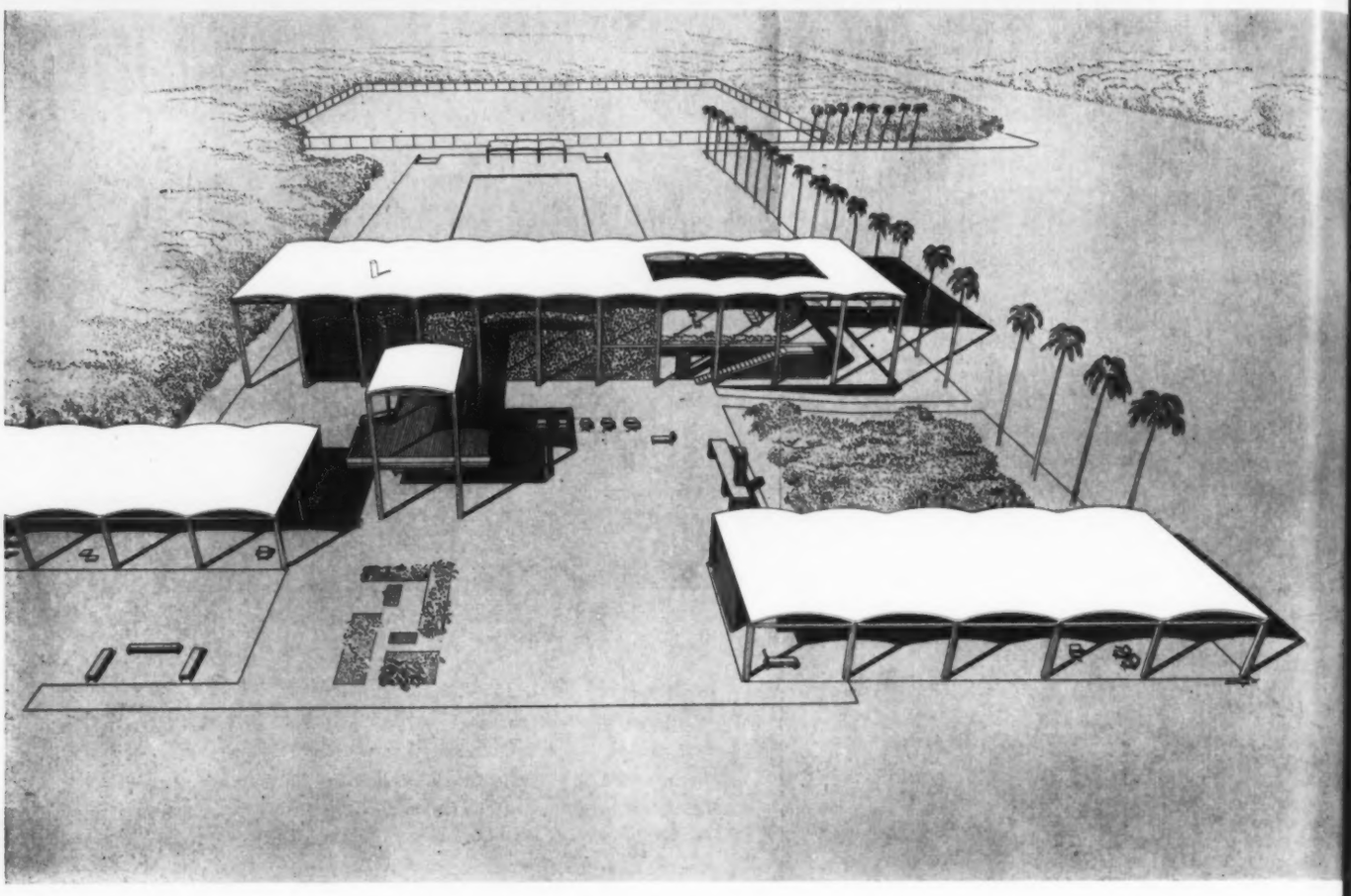


Paul Rudolph, Architect; Landscaping, Edward Shields



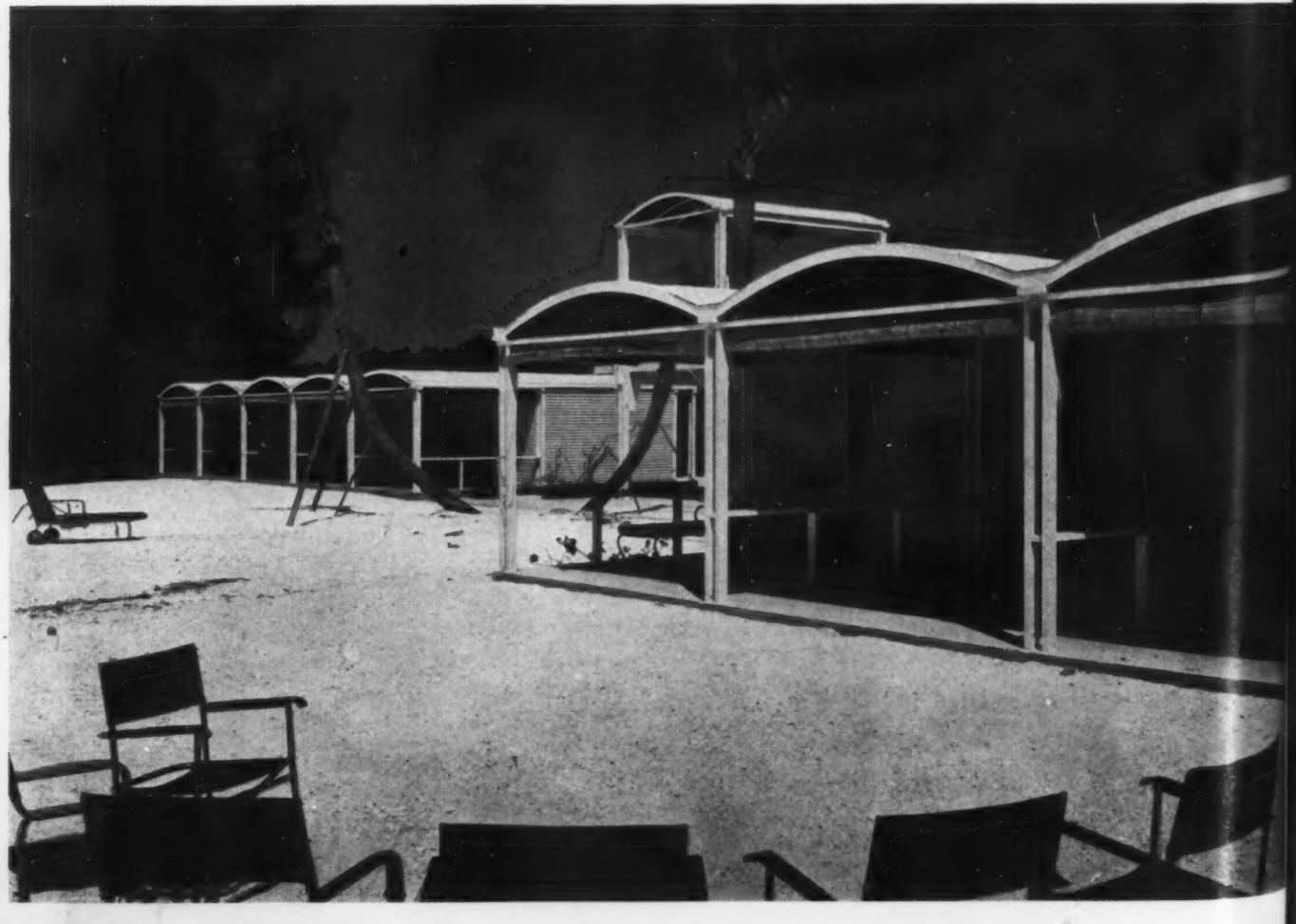
THE CABANA CLUB designed for Sanderling Beach, Inc., at Siesta Key is simple, appropriately gay in concept, and architecturally of much interest as an example of technical excellence applied with a sure esthetic sense to a common design problem. At first glance the plywood shell roofs — which are detailed on the following pages — would seem to command the most attention. These are exciting, it is true; but of at least equal importance are such matters as the careful organization of the units on the site, so that the identically repetitive cabanas and groups of cabanas are not monotonous; the use throughout of standard framing lumber sizes in ways that average labor can execute with little difficulty; and a certain reverence for the essence of architectural tradition which may not be obvious. Rudolph says he prefers things which, like the classic column, have "a beginning, a middle and an end"; one can almost find here the satisfactions afforded by the traditional capital, tympanum and architrave. The economy of means is also in the classic spirit.

Siesta Key is a restricted development; this is its beach club, and several resident-members participated in its construction.



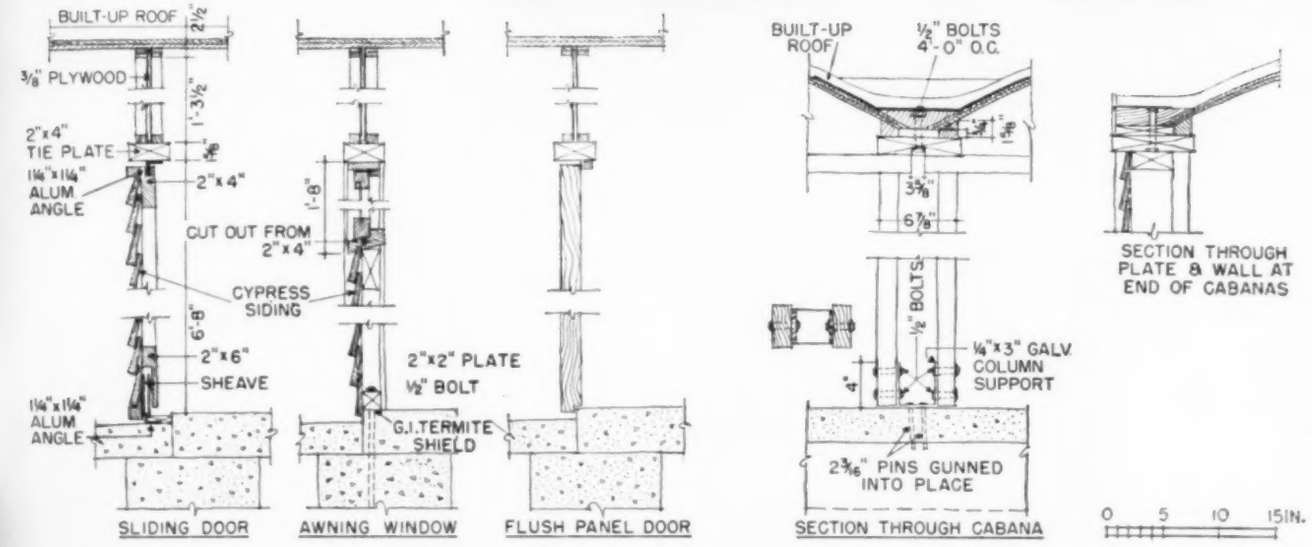
FLORIDA BEACH CLUB

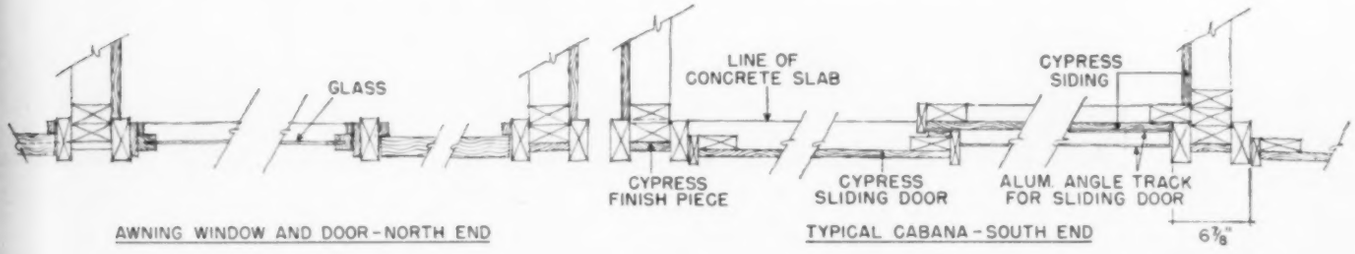
The rendering on the preceding two pages shows one of the first schemes for the central pavilion. Above is the final design, not yet built



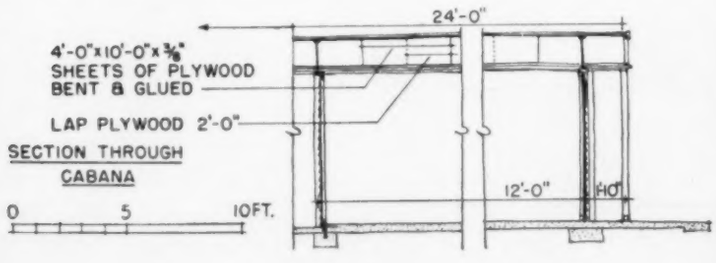
Barrel-vaulted roof is formed of two lapped, glued sheets of ½-in. plywood, held by edge members bolted down to withstand lifting action of wind. Tie rods, at first thought necessary, were omitted because method of forming made thrust negligible: plywood sheets were bound to a short radius while glue set; when released they expanded to final curvature

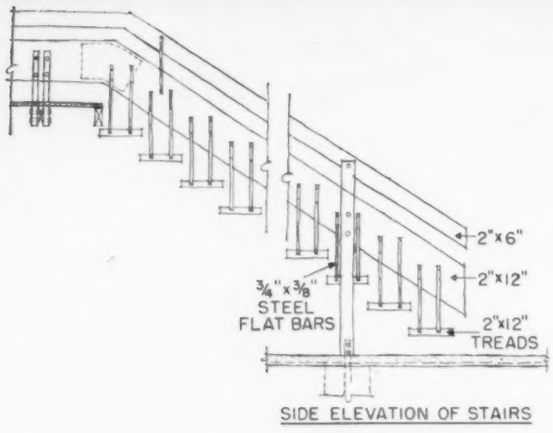
© Ezra Stoller





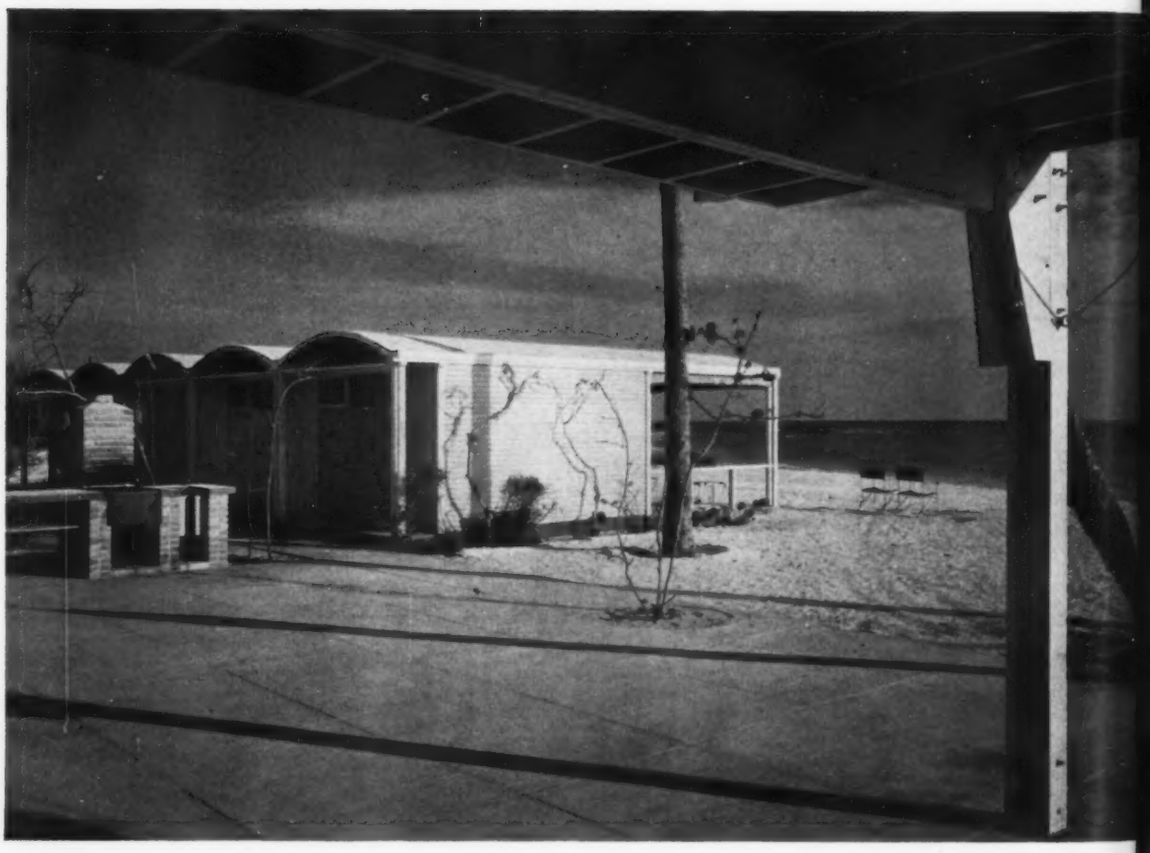
A 20-year-bonded built-up roof was used after "cocoon" roofing (used in moth-balling naval equipment) had been considered and discarded because initial and amortized cost were both high





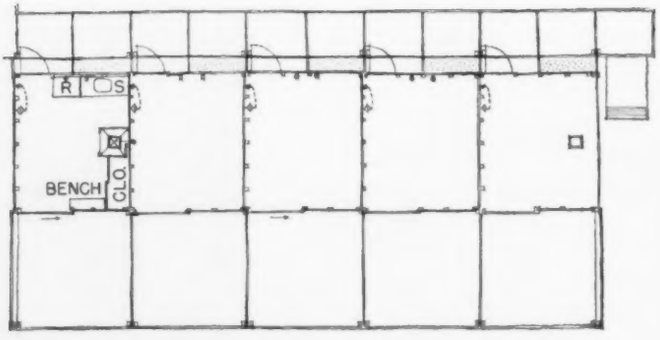
SIDE ELEVATION OF STAIRS

The central pavilion (facing page; photo below taken from beneath it) is also deceptively simple — the result of careful refinement and detailing. As in cabanas, all members are standard framing lumber so placed that each piece does its job economically and directly. Steel cables in tension brace the structure diagonally. The only concealed fastenings occur in stair and platform railing, where the corners are joined with ¼-in.-thick steel plates mortised into the abutting wood members like splines.



© Ezra Stoller

FLORIDA BEACH CLUB

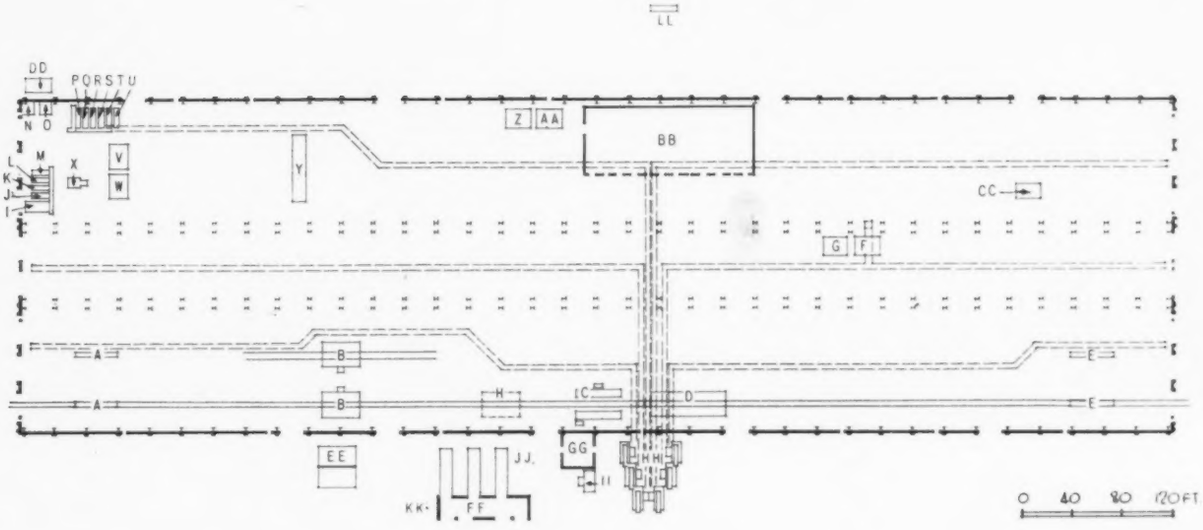


Cabanas are in small groups around the pavilion; more may be built in the future. Each cabana is equipped as the permanent occupant wishes, including such items as refrigerator, sink, bar storage, shower, closet, etc. Doors at both ends (see details on preceding page) and canopies front and back provide welcome ventilation and shade. Toilets are in a separate unit behind the pavilion

REPAIR SHOP COMBINES EFFICIENCY, FLEXIBILITY

Anniston Ordnance Depot Vehicle Maintenance Shop, Anniston, Alabama

Sherlock, Smith & Adams, Architects & Engineers



LEGEND

A.	Lubrication Pit	T.	Preservative
B.	Large Shot Blast	U.	Drain Table
C.	Paint Booth	V.	Paint Booth
D.	Drying Oven	W.	Drying Oven
E.	Lubrication Pit	X.	Small Shot Blast
F.	Paint Booth	Y.	Van Norman Grinder
G.	Drying Oven	Z.	Paint Booth
H.	Wash Rack	AA.	Drying Oven
I.	Degreaser	BB.	Dynamometer Room
J.	Acid Tank	CC.	Inspection Pit
K.	Rinse Tank	DD.	Small Dust Collector
L.	Acid Tank	EE.	Large Dust Collector
M.	Rinse Tank	FF.	Boiler House
N.	Twin Vapor Tank	GG.	Paint House
O.	Wheelabrator	HH.	General Ventilation Fans
P.	Acid Tank	II.	Paint Booth Fans
Q.	Rinse Tank	JJ.	Ash Reservoir
R.	Acid Tank	KK.	Coal Storage Silo
S.	Rinse Tank	LL.	Pump House

THE clean-cut simplicity of this immense Vehicle Maintenance Shop, planned to augment facilities at the Anniston Ordnance Depot, reflects considerable skill in organizing complex program requirements. Although specifically intended for repairing and rebuilding Army tanks, the shop also required a maximum flexibility to allow rearrangement into new types of maintenance or assembly production lines, or for conversion to other military operations.

To efficiently provide for this combination of specific and relatively undefined functions, the architects have devised a well integrated scheme, adaptable to most any type of production flow line.

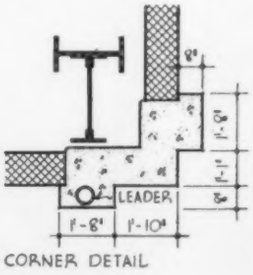
The basic structure is a lightweight steel frame resting on heavy crane supports and sheathed with corrugated asbestos and glass on the upper portion, concrete block below for protection against damage. In cross section, it is divided into three bays — 60 ft in the center, 100 ft at the sides — each of which is spanned by cranes. Bridges or crossovers at 75-ft intervals through the center bay make it possible for a crane to transport a heavy piece of equipment over the entire floor area of the 270 by 900-ft. building.

To keep the shop area as open and flexible as possible, prefabricated box-car-like units were designed for use as toilets, offices and first aid stations. These can be shifted about by the cranes. The number of permanently fixed room divisions or equipment placements within the building was kept to a minimum.

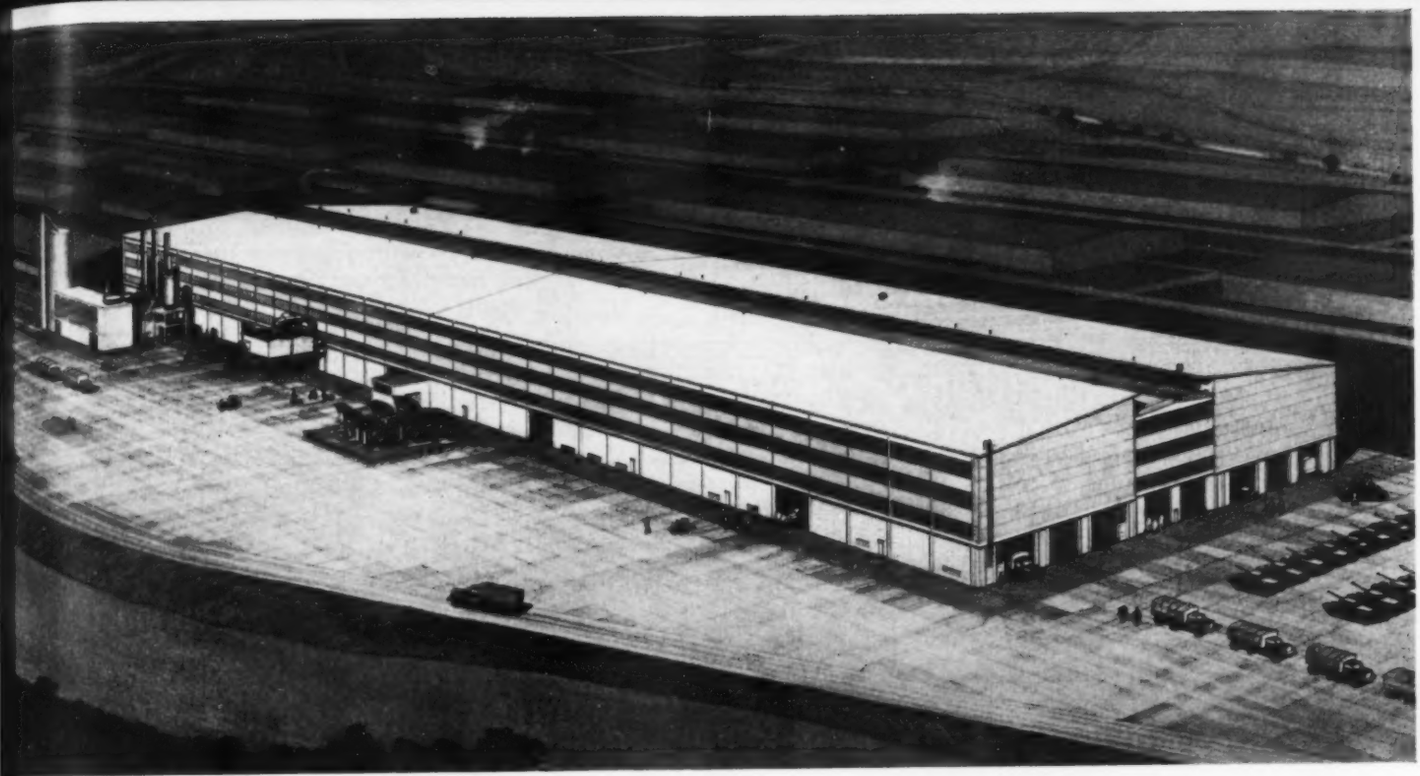
All utilities and an exhaust system to remove gas fumes are carried in underground trunk lines, with floor outlets placed in a 25-ft grid pattern. For safety, all combustible fuels, paints, etc., are stored outside the building proper.

Military personnel in charge of the project include: W. K. Wilson, Jr., Col., Corp of Engineers — District Engineer, Mobile District; Mr. G. B. Weston — Chief of Engineering Division; Mr. Arthur J. Dunn — Chief of Military Branch; Earl W. Aldrup, Col., Ordnance Corps — Commanding, Anniston Ordnance Depot.

Concrete and concrete block around the lower portion of the building form a protective shield against blows from heavy equipment (below)



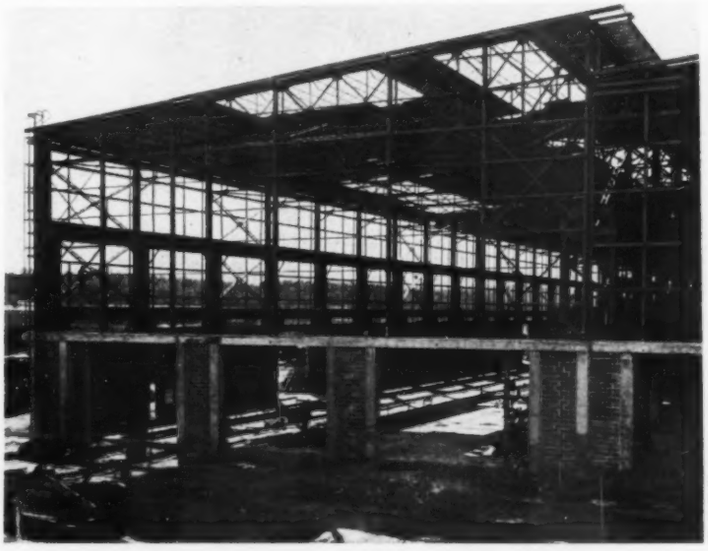
CORNER DETAIL



Julian Michele

Maintenance shop has broad hard-surface surround for parking vehicles

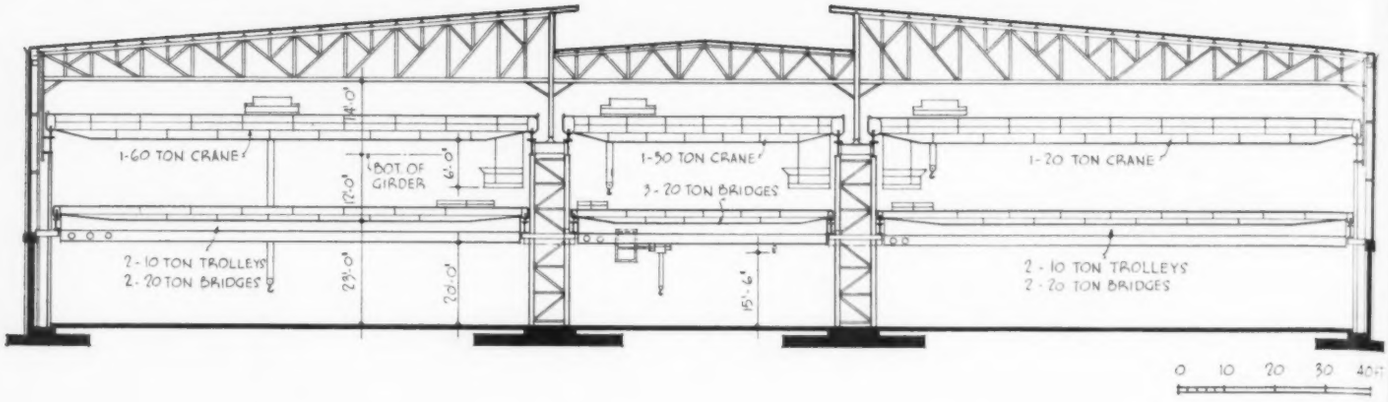
Curtain walls sheath upper portions



Betty Baldwin

Lightweight steel frame rests on crane supports

Joseph Molitor



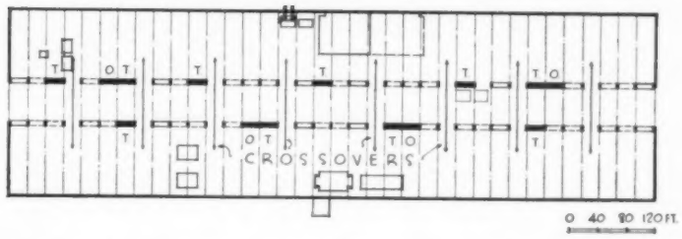
ANNISTON ORDNANCE DEPOT VEHICLE MAINTENANCE SHOP

Julian Michele

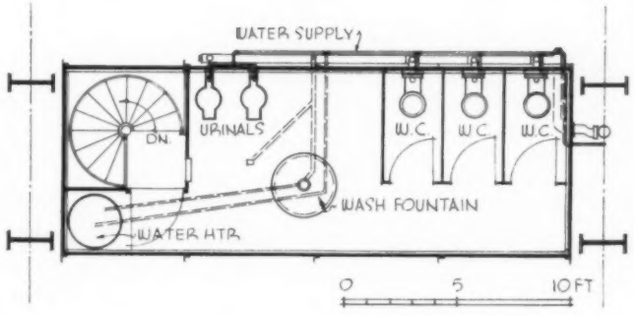
Joseph W. Molitor

The cross section of the building was determined in large part by requirements of the cranes needed to carry the heavy tanks and machinery. Heights of the lower cranes were set to permit them to lift a turret from the largest of the Army tanks and clear the framework of the tank itself. The upper cranes were spaced to give clearance with a load over the lower ones. Electrical control devices are used to prevent collision of cranes traveling on the transverse bridges or crossovers. The structural frame system carrying the cranes was designed for at least a 50 per cent overload on any of the cranes, which can also be used in multiple to handle heavier loads. The heavy supports also carry the load of the light framework for the shell of the building.

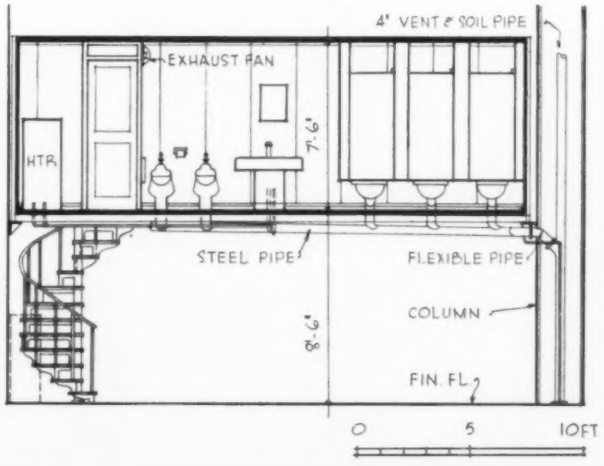
Perhaps the most novel aspect of the building is the development of the self-contained, prefabricated units for toilets, offices and first aid stations. All use a basic shell with different interior arrangements; office units, however, are provided with windows for supervision. The unit frameworks are designed to take stresses in any direction so that the cranes can pick them up and move them quickly from one location to another without damage. Brackets on the central rows of columns in the building permit the placement of the units 8 ft above floor level to clear the working space. Soil and waste lines, vent lines, water lines and electric service are provided with flexible connections at each of the locations where a unit might be set. Cast iron spiral stairs fit in steel ferrules in the concrete floor, and may be moved with the pre-fab units or separately. First aid units are placed directly on the floor for easier access.

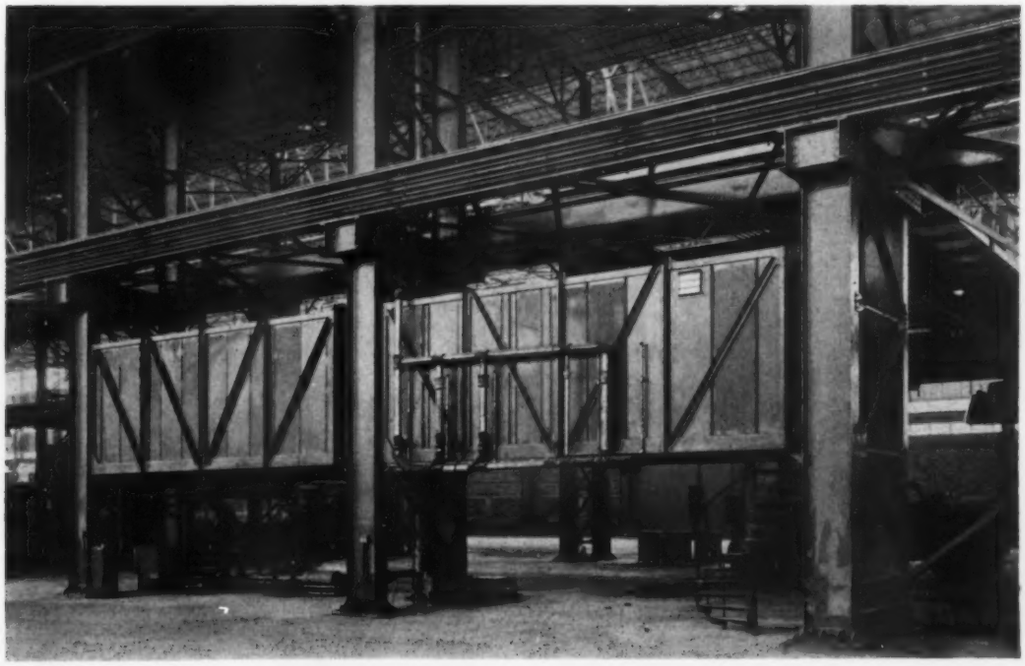


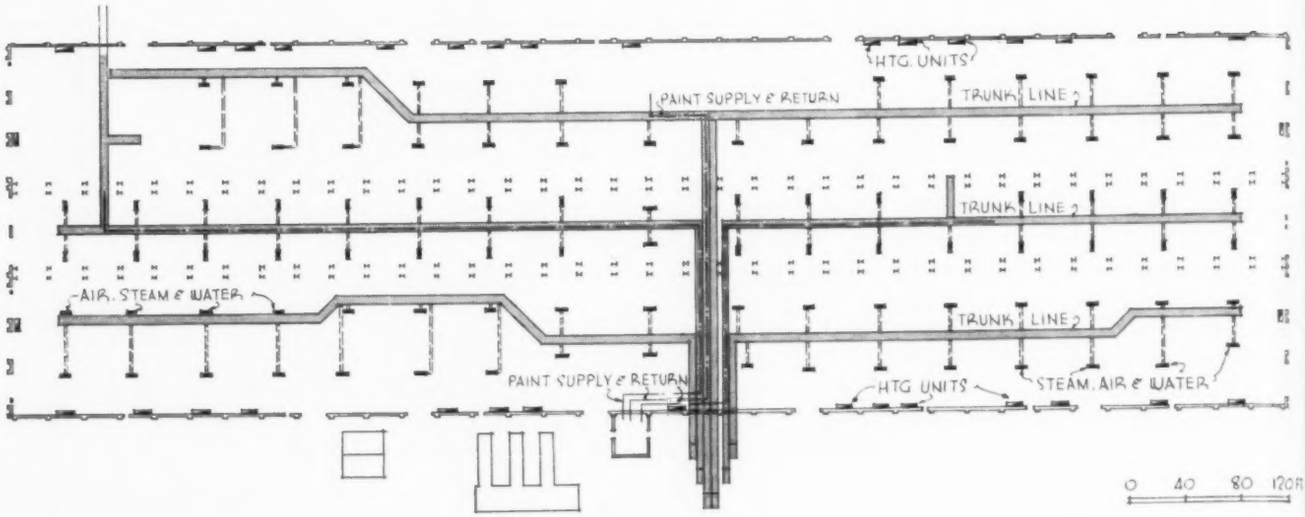
Plan above shows locations for pre-fab units, crane crossovers



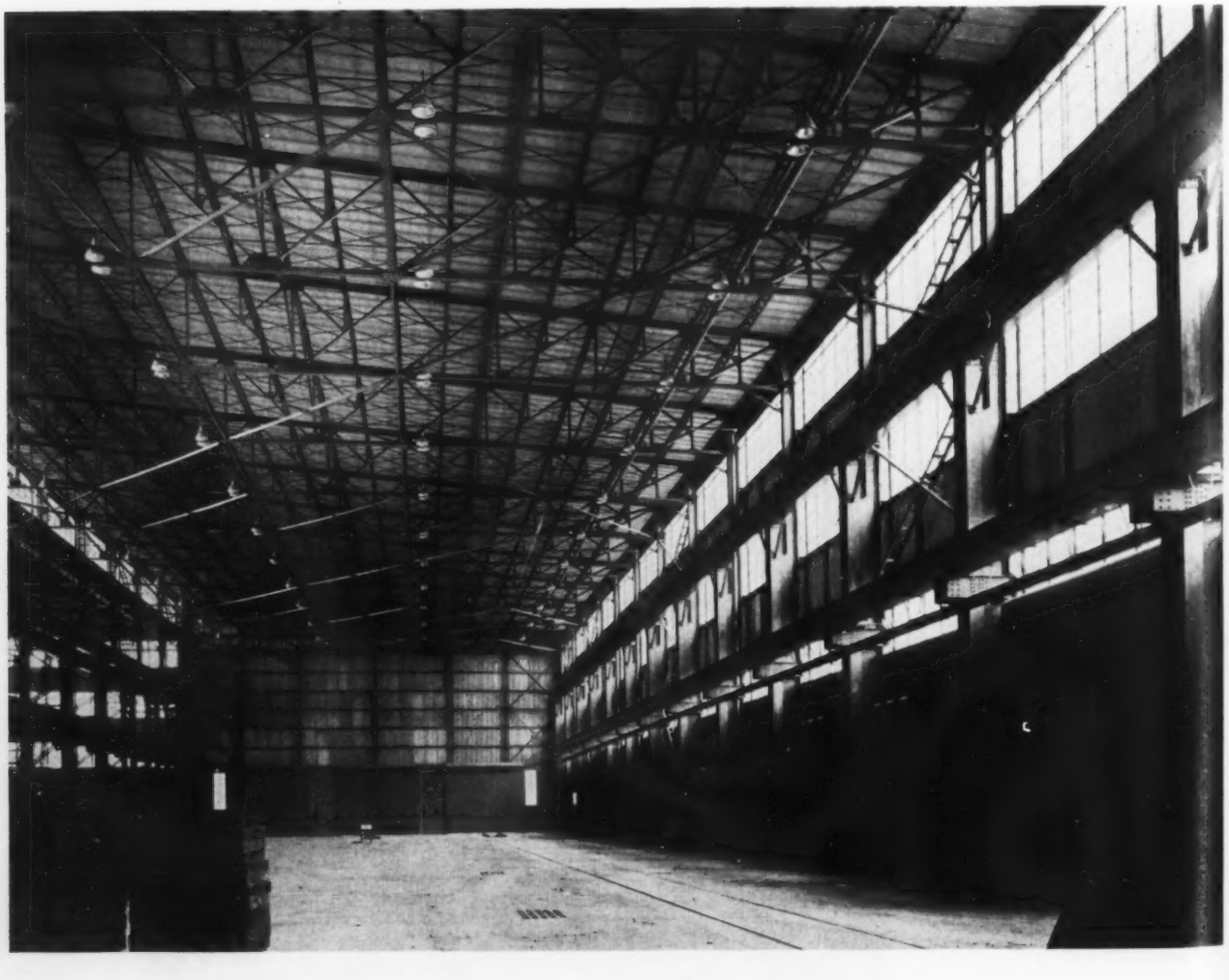
Details of a pre-fab unit fitted as toilet

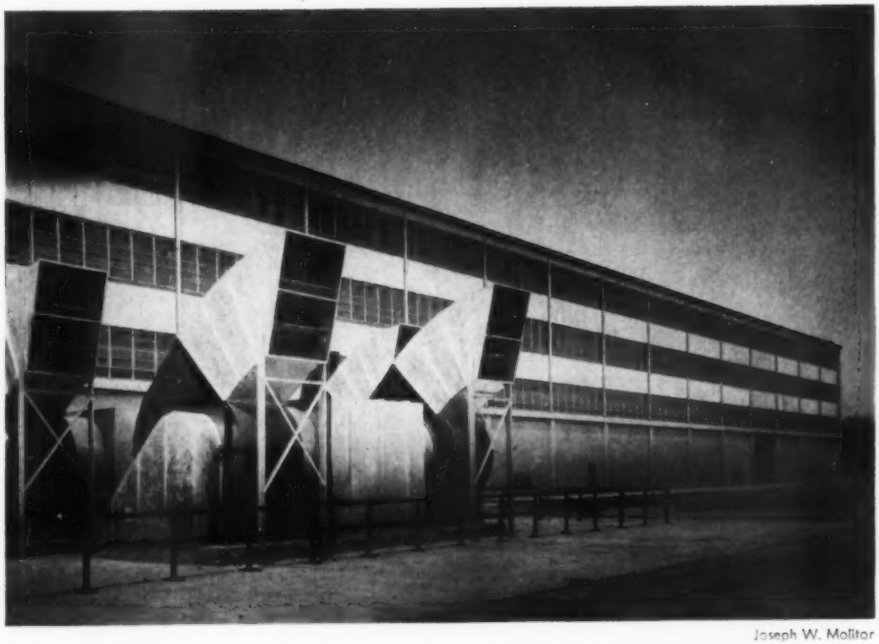






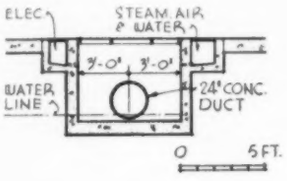
Six trunk lines under the floor of the building house utilities and air exhaust system. Branch lines connect with floor outlets (visible in photo below). Wall mounted unit heaters supply air in winter. Large blower fans outside building (across page) pull air through exhaust system



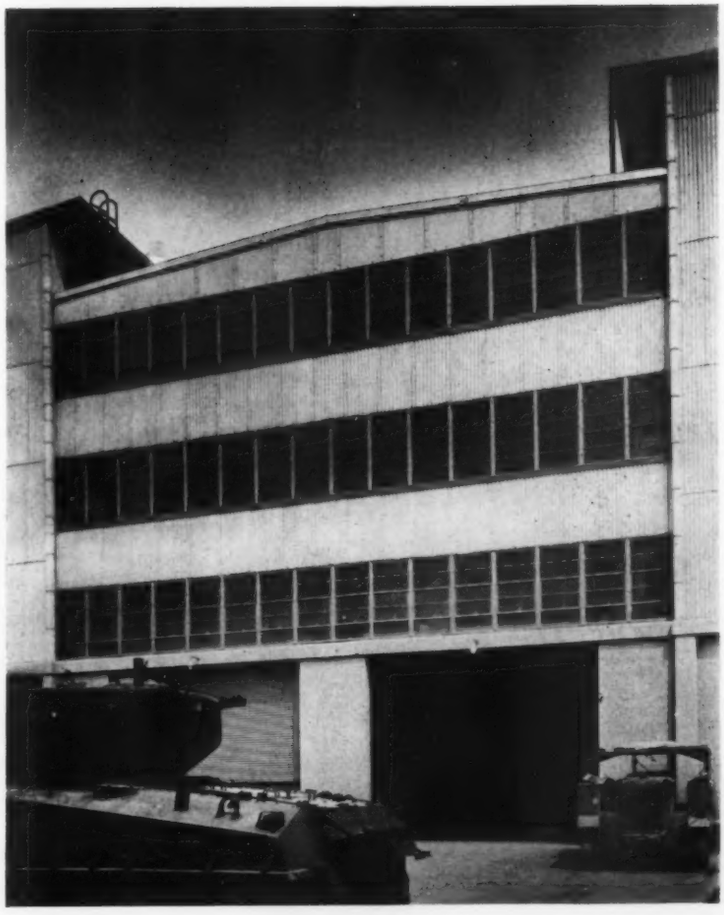


Joseph W. Molitor

Outlet boxes for the utility system are at 25 ft intervals in the floor (detail below). Side floor chases are covered with steel plates; center portion has screened grill to prevent debris from dropping into exhaust system, water spray to reduce explosion hazard



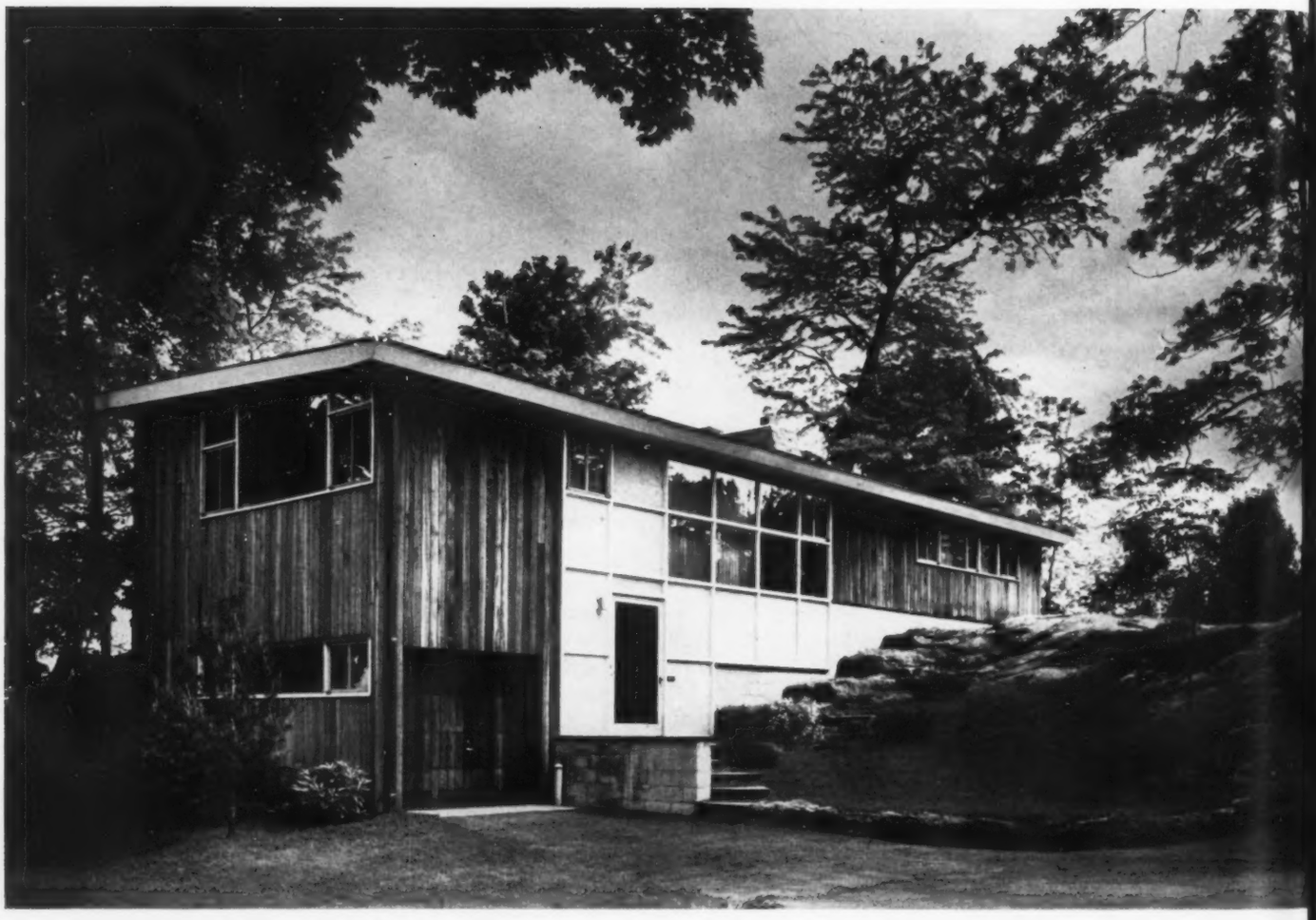
Inverted monitor in center bay gives clerestory windows to augment natural and artificial lighting



An extremely well organized system for utilities was developed to give flexibility to whatever type of operation might be used within the building. Large trunk lines carry leads and returns for cold water, compressed air, processed steam and electricity. All these are available through floor outlets every 25 ft, with the exception of steam, which is available at every other outlet. Paints and fuels are also carried through the system to certain parts of the building.

However, a major function of the underfloor trunk lines is as exhaust ducts for any obnoxious or toxic gas fumes generated within the building during the repair work. Fresh air is pulled into the building through windows and doors, then exhausted through the ducts by six blower fans located outside the building. At the floor outlets, screens and water sprays are used to minimize hazards of explosion; baffles in the ducts and automatic cut-offs control the water level. Automatic controls also regulate the air pressure within the building. In winter, the fresh air supply is provided through wall-mounted unit heaters.

Daylighting is provided by an inverted monitor down the center of the building and by three continuous strips of steel sash running the length of the structure. All sash are mechanically operated and provided with explosion-proof hardware. Artificial lighting is provided by units at the bottom of the trusses about 60 ft above floor level. Each unit contains a mercury vapor lamp and an incandescent lamp, and gives about 40 foot-candles intensity at work level.



SMALL HOUSE—LOTS OF SPACE

ONE OF THE MORE ACUTE PROBLEMS in small house planning these days is the difficulty in realizing adequate living space and equipment at a reasonable cost. The theories of open planning have solved part of the problem, but in their extreme forms little, if any, provision has been made to satisfy the average person's yen for some individual privacy. In this compact little house a rather happy balance has been made. Central living, dining and service areas join into an open area for activities and entertaining; the space is further increased by a terrace and glass walls overlooking a magnificent view of Long Island Sound. At each end of the house is a room set apart from the living area by soundproofed walls, one a bedroom, the other a study with a guest-bedroom alcove which can be closed off. Placement of the house at right angles to a rocky ledge gives room for garage and entry at a lower level.

Residence for
Mr. and Mrs. John E. Schacht
Port Chester, New York

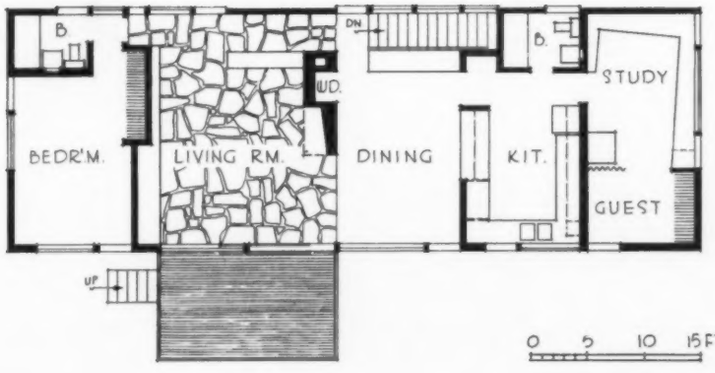
Carl Koch & Associates, Architects

Margaret M. Ross, Associate

Charles Tilton, Architect in charge of construction

Marc Neuhof

Placement of large glass areas has been carefully studied to center on view, retain privacy



Circulation patterns in the plan are very convenient, waste little floor space

SCHACHT HOUSE, PØRT CHESTER, N.Y.

The interiors of the house have been worked out to permit convenient arrangements of furniture out of traffic paths. Well organized natural-finish wood storage cabinets in each room have been used to reduce the amount of furniture required. The entire character of the house, inside and out, has been kept informal and simple in keeping with the rocky, tree-strewn site

The structure of the house is conventional wood frame with poured concrete foundations, vertical redwood siding, built-up roof. Interior walls are finished with a textured plaster left unpainted; floors are flagstone or linoleum; ceilings are plaster. Heating is by steel pipe panels using hot water; boiler is at lower level. All storage cabinets are custom-made

Marc Neuhof

The living and dining rooms (above and left) form large open area with pass-through into kitchen (top photo). The studio and bedroom (below) provide quiet and privacy for working and sleeping, ample storage for equipment and clothing

R. Wenkam

TUBERCULOSIS HOSPITAL IN HAWAII ACCENT HE

Puumaile Hospital, Hilo, Hawaii Mer

Quarters for staff are all well away from patient accommodations: nurses' residence in foreground; male and female employes' quarters in center

THE NEED for pleasant and cheerful surroundings is probably nowhere in the world more acute than in a tuberculosis hospital, where a patient's stay is counted not in weeks, but in months and sometimes years. Yet because of the contagiousness of TB, such a building must be every inch a hospital. The two requirements do not always go hand in hand.

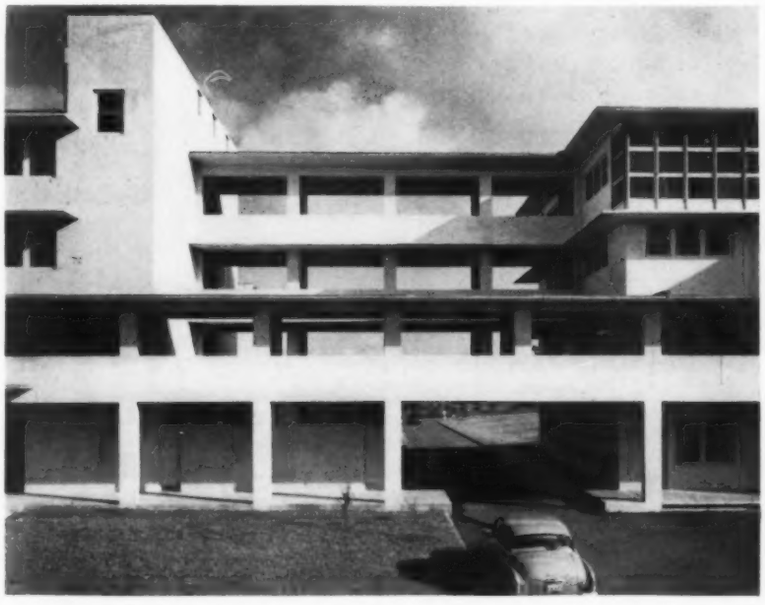
When this building on the "Big Island" of Hawaii was first presented in ARCHITECTURAL RECORD (April 1951, pp. 150–153), it was under construction and showed every promise of meeting both requirements. It kept that promise, as the photos on these seven pages prove.

Puumaile is blessed first of all with a splendid site on the Wailukee River immediately above Rainbow Falls. From its windows patients can look out on both river and falls, plus the sea, surrounding sugar cane fields, and the craters of Mauna Kea and Mauna Loa, the latter still occasionally active. The best view, by great good luck, is to the northeast — the sector from which the cool trade winds blow for most of the year, and toward which the patients' rooms had to be oriented since the semi-tropical climate and relatively high humidity made good ventilation all-important.

Despite the fact that this is a 216-bed institution with many of the facilities of a general hospital, it is a pleasant and friendly building, thanks to its open walks, screened lanais and general design. Of rigid frame concrete construction, it is earthquake resistant with expansion joints, control joints and weakened planes. Facilities include x-ray and pneumothorax rooms, an operating room, morgue, laboratory, dentist's office, barber and beauty shops, canteen, and auditorium.

NTHEERFUL SURROUNDINGS

waii — Merrill, Simms & Roehrig, Architects



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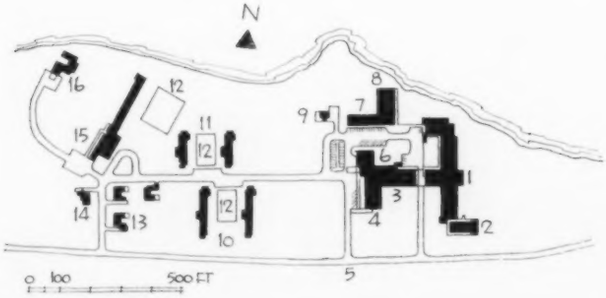
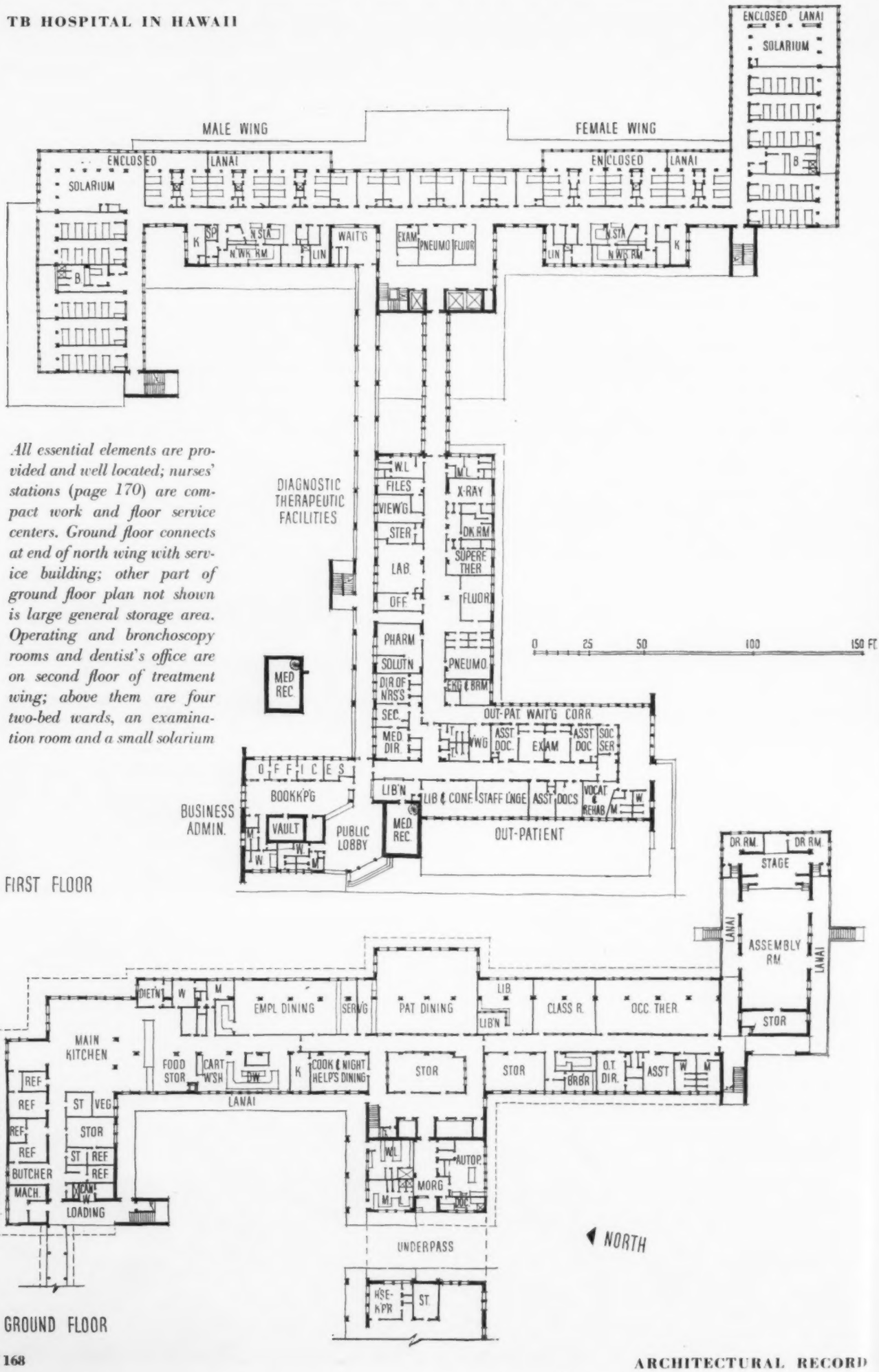


1 *Nursing*
2 *Assembly*
3 *Diagnostic, Therapeutic*
4 *Out-Patient*
5 *Main Entrance*
6 *Administration*
7 *Shop, Service Building*
8 *Laundry*
9 *Animal House*
10 *Male Personnel*
11 *Female Personnel*
12 *Tennis Courts*
13 *Doctors*
14 *Nurse Director*
15 *Nurses' Home*
16 *Medical Director*

10

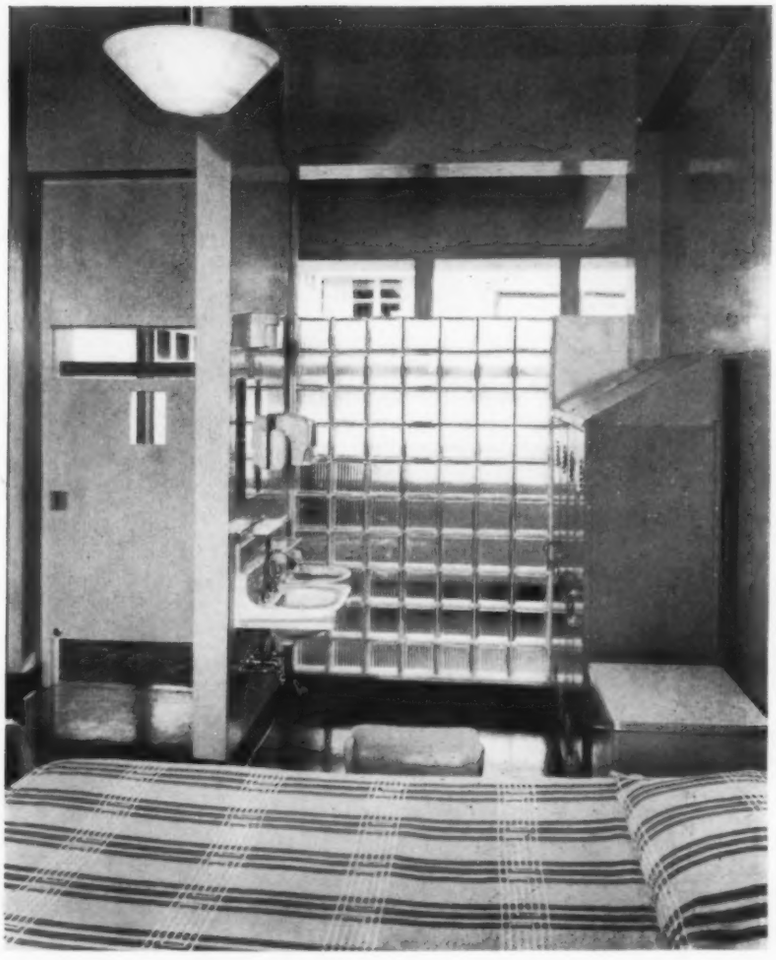


All essential elements are provided and well located; nurses' stations (page 170) are compact work and floor service centers. Ground floor connects at end of north wing with service building; other part of ground floor plan not shown is large general storage area. Operating and bronchoscopy rooms and dentist's office are on second floor of treatment wing; above them are four two-bed wards, an examination room and a small solarium

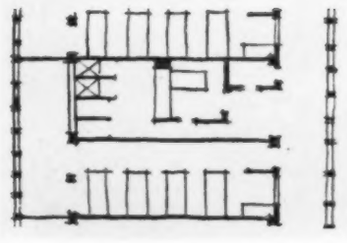
Above: north arm of nursing wing, seen from covered walk to treatment wing; this walk doubles as secondary corridor for visitor traffic, which is easily controlled from information desk in main lobby. Below: main lobby, looking out toward personnel quarters. Exterior of building is painted a warm sandstone with aqua eyebrows

R. Wenkam

Nurses' stations are compactly surrounded by necessary floor services such as utility and sputum disposal rooms, janitor's closets; change in wall color at station reminds staff of entrance to sterile area. Cane fiberboard insulation on corridor ceilings keeps noise out of wards despite ventilation space above partitions



Typical Four-Bed Ward



Except for a few private rooms, patients' accommodations are two- and four-bed wards, each opening to a screened lanai. Windows in all patients' rooms are triple-hung wood louvers extending room width. Window walls are painted in very light colors to reduce brightness contrast; walls behind and facing beds are gray-green, corridor walls are champagne buff

R. Wenkam

TB HOSPITAL IN HAWAII

Facilities for ambulatory patients include a solarium at each end of every nursing floor, a library, dining room, barber and beauty shops, canteen, chapel-auditorium, occupational therapy room and classroom. Bottom of page: hospital kitchen and corner of dietitian's office

R. Wenkam

Ben Schnall

ARCHITECTURAL INTERIORS

Design | *Details* | *Materials* | *Equipment*

Offices for Cunningham & Walsh, Inc.

New York City

COLOR ENLIVENS OFFICES

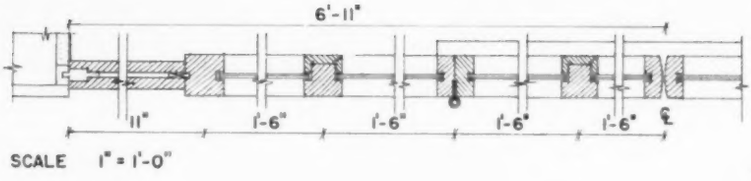
Carson & Lundin, Architects

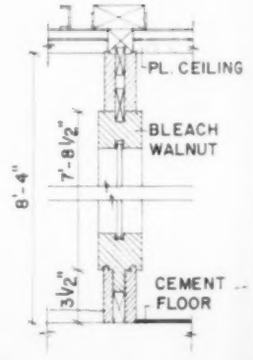
Alfred Rummler, Inc., Custom Furniture

Smith & Silverman, Electrical Engineers

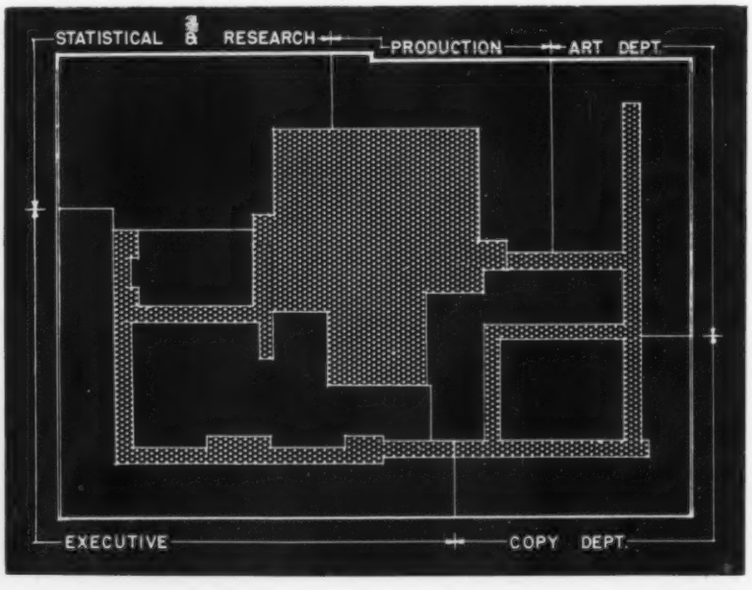
Sears & Kopf, Mechanical Engineers

BOLD USE OF COLOR marks these offices for a large advertising agency. From the elevator lobbies (the company has two floors, treated alike) to the innermost corridors, the colors are unorthodox and highly effective. In the lobbies, for instance, walls are covered with a deep olive green plastic sheeting, and floors with huge black and beige vinyl squares; elevator doors are painted parchment white. Gray, yellow, blue, terra cotta and green are used in varying combinations to relieve the monotony of long corridors and large working areas; corridors seem wider than they are because opposite walls are in different colors.





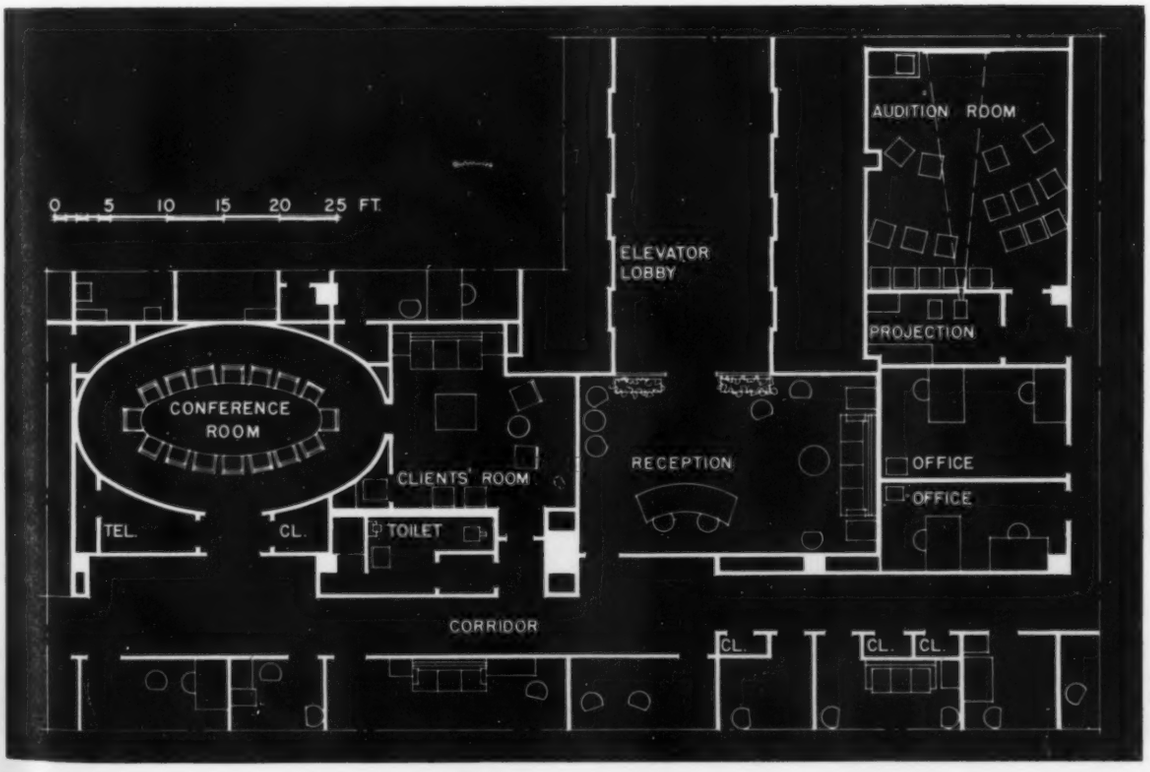
Particularly nice feature on executives' floor is bleached walnut and glass screen (detailed plan and section above and right) separating reception room and elevator lobby. Wall behind curved reception desk is bleached walnut, carpeting is olive green, wall drapery black on beige. Upholstery is bright orange, black leather, black and white tweed. Below: plan of zoning and traffic flow on executives' floor

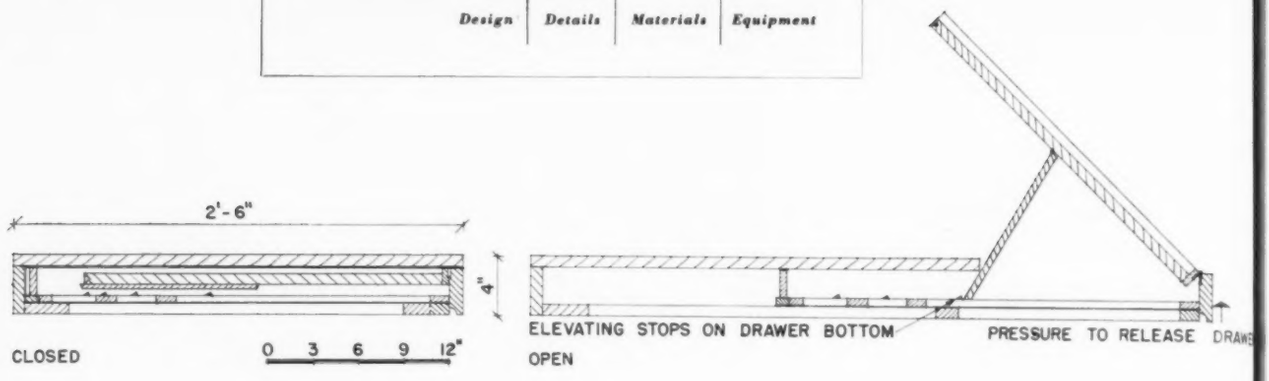


Drafting by Mogens Leth

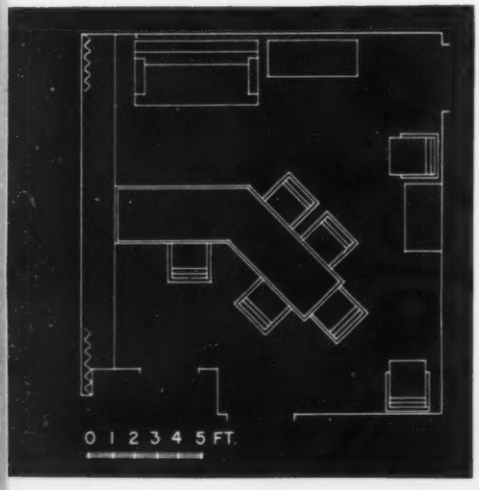
Oval conference room and connecting clients' room on executives' floor have walls of Burma teak, pale gray carpeting. Large panels of cork on side walls of conference room provide display space for advertising material; table and chairs are bleached mahogany, chair upholstery is deep blue leather. Clients' room has wall drapery of yellow and black print on gray; furniture fabrics are in varying shades of blue, yellow and gray

Ben Schnall

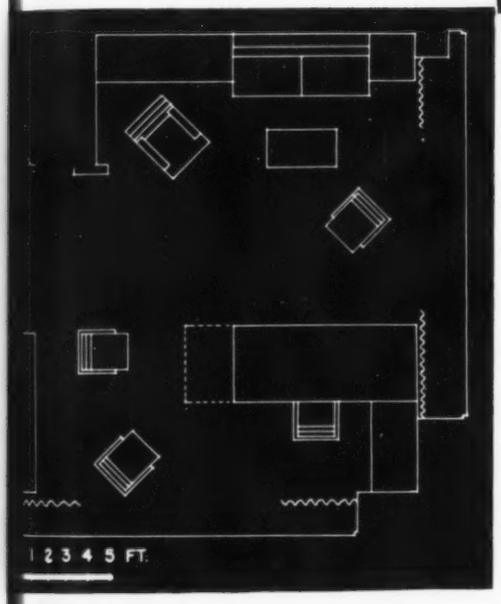




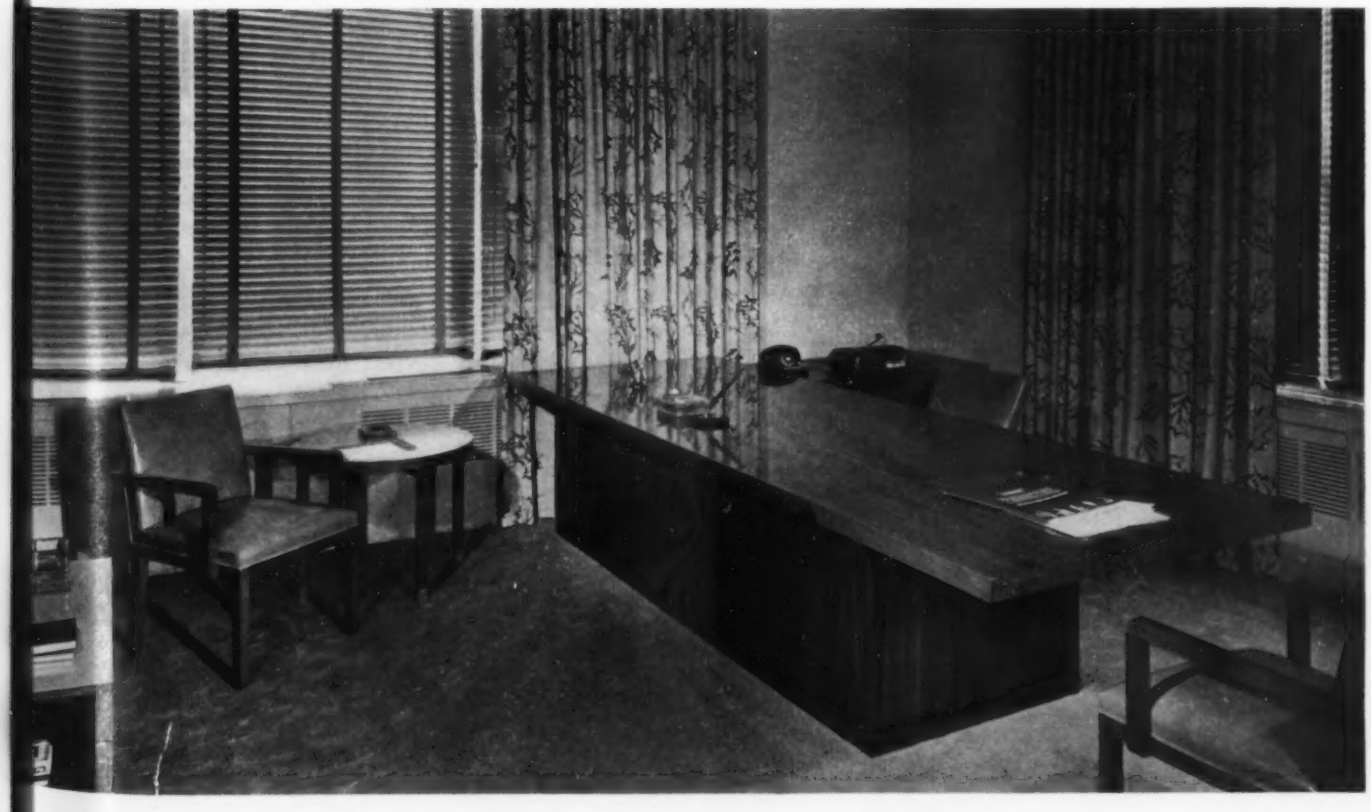
L-shaped desk in account executives' office gives exceptionally good working area and ample conference space; built-in drawing table (details above photos) is convenient for swift sketch layouts. Like conference room, this office has cork wall panels for display. Skylight-type fixture over desk provides good light without surface glare



Ben Schnall



J. P. Cunningham's office has some wall areas in paneled cherry; one wall is painted a deep brown. Carpeting is cocoa, draperies are brown and orange on natural background. Plaid on couch picks up predominant colors in rest of room. Large desk has hinged side panel for use in conferences



The Bettmann Archive

A 16th century market from an old engraving

Photo from Pix — Ed Goldman

Push-cart market, Lower East Side, New Yo

SHOPPING CENTERS

Introduction

In its long and useful series of Building Types Studies, ARCHITECTURAL RECORD has published much material on the retail store. Now, with suburban retailing occupying a new type of building recently evolved, ARCHITECTURAL RECORD presents herewith its third study of Shopping Centers.

The sudden mushrooming of suburban shopping centers is one of the most interesting aspects of the postwar building boom — for here is a new concept and a new building type non-existent only a few years ago which is now abuilding at crossroads all over the land. Where did these come from and why? What happens downtown when one is built in a suburban fringe? Have any sound planning principles been evolved? The answers to these and many other related questions are of interest to architects when they enter upon this extremely active field.

In a recent news story, the Urban Land Institute had this to say, "It is true that the central portions of cities are not growing rapidly. Increases in population are taking place in the suburbs and in the fringes outside corporate city limits. With this new pattern of urban growth, shopping centers are coming into being by reason of the increase in suburban population and the resultant increase in purchasing power located there rather than by reason of any flight of downtown business. The impact of the automobile makes possible a redistribution of expanded commercial and industrial activity over a greater area surrounding the metropolitan core.

"Downtown areas are holding their dominant position . . . by reason of the pulling power built up during the mass transportation era. Whether this magnetism will continue depends on the central business district's ability to safeguard its wide selection of goods and concentrated purchasing power.

"The real resource of downtown is the crowd — the shoppers, the workers, the transients, the public seeking services. The crowd is important to the retailers, the newspapers, the banks, the property owners, to the community as a whole. To hold this asset in an era of individual mobility means that the central business district cannot rely on tradition but must make deliberate improvements.

"The required improvements include freedom from congestion, provision

Drawing by Tom Ballenger

The mall, Fairless Hills Shopping Center, Pa., Tully & Hobbs, Architects

for offstreet parking spaces in ample number, convenient access, better and faster mass transit, attractive modernized buildings, and attention to the amenities including elimination of garishness, unnecessary noise and impediments to easy circulation. The suburban shopping center incorporates these criteria.

"Established business districts must not only look to their laurels; they must initiate positive action. Otherwise the planned regional shopping center, with its full range and depth of goods for comparison shopping and with its facilities for easy marketing and customer appeal may become a direct competitor of and not a supporting complement to the downtown district."

A prominent architect who is actively engaged in shopping center work has said that the most important single element in successfully designing such projects lies in the architect's state of mind. He explained that the architect must make every effort to approach the work as though he were the *owner* of the project — and design accordingly. This does not imply the giving up of high artistic and professional standards; on the contrary, they must simultaneously be held at the highest level. To express it in another way — the center must *first* be planned for successful financial operation and within this discipline should then provide all the amenities and attractiveness possible.

Comprising information in this vein which should prove both useful and interesting to architects, the main body of our text will present the latest ideas of owners, market analysts, real estate men, and merchandising consultants insofar as these ideas bear directly upon the activities of the architect. Certain portions of the recent study* on the subject compiled by the Urban Land Institute, Max S. Wehrly, director, will be quoted. Additional material from our own or other sources will be interspersed in *a different type face* to amplify certain points.

* *Technical Bulletin No. 20, Shopping Centers; Planning Principles and Tested Policies Based on Experience from the Community Builders' Council. Compiled by J. Ross McKeever and published by the Urban Land Institute, Washington, D. C. $6.00.*

L shape two-level shopping wraps around a free-standing Macy "puller" in Architect Victor Gruen's Bay-Fair, San Francisco

Harry H. Ba

A Place to Begin

The present day shopping center began as an experiment to go with suburban living. It grew out of the early Sears and Wards branches built on a lot with a place for parking customers' cars. It evolved from a single unit into a series of stores under one management. Then, later, the series took on clear characteristics as try-outs became successful practices. Early developments were the ventures in Baltimore at Roland Park, in Kansas City by J. C. Nichols, in Dallas by Hugh Prather, in Houston by Hugh Potter. The pioneers of the Twenties and Thirties created the pattern for the merchandising phenomenon that is the shopping center of today.

The development of shopping centers has progressed . . . to the extent that such construction . . . can be called a building type. Even so, there is not much long-term practice to set hard and fast rules. At best, we have rules of thumb. But developers . . . have tested theories about shopping center planning based on their own experiences. An account of experience is a good place to begin.

The planning and operation of a shopping center include more than high hopes or hunches. The development has moved from a single operation to one involving research, planning and promotion by a team of specialists.

first — economic analysis: Ultimate success will depend upon the care taken to evaluate the market. Market analysis is the substitute for the golden hunches of the real estate genius. Hugh Potter says, "When the shopper was at the mercy of mass transit lines '100 per cent locations' were a safe substitute for market analysis. But when widespread auto ownership liberated the customer . . . it became evident . . . that the shopper could be pulled almost anywhere by a strong merchandising attraction and by what the downtown district so signally lacked — a place to park the car." The market analysis determines the kind and size of project, and is a job for an expert in that field.

second — site selection: Decision on the site is the next step, and the decision relates to all the factors of suitability. These will be discussed in detail later.

Too often the architect is not consulted early enough in the selection of the site when his advice to the owner might be invaluable. Such considerations as shape, orientation, access, slopes, drainage, soil conditions, etc. should be his direct concern from the beginning.

third — preliminary site planning: The next operation includes preparation of preliminary plans for the building and site layout, and requires the services of the architect. The project begins to take form in its eventual adaptation to the physical characteristics of the site and the trade area. Site engineering studies and tests are made to learn the sub-surface conditions. During the planning phase the time is ripe for preliminary negotiations with prospective tenants. After there has been agreement on the land usage of the site, the traffic planning and the merchandising setup, the project is ready to move towards its next stage.

fourth — detailed architectural plans: "Do we want air conditioning; are our costs in line?" At this stage, the project starts shaping toward reality. Final plans must clear with municipal authorities; the architectural, structural, and mechanical drawings assume final form; parking and traffic handling arrangements become fixed; a prospectus is prepared for lease negotiations with tenants. After leases with major tenants are signed, the project is ready to move toward ground breaking and actual construction.

What Makes a Shopping Center

In general these are the ingredients for a good shopping center:

A site layout that will provide a store group with minimum walking distances, both from parking areas and within the store group itself

A store group that can be merchandised to provide the greatest interplay between stores

An arrangement that eliminates all poor store locations and difficult parking stations

Separation of foot traffic and automobile traffic and elimination of all service facilities from the public consciousness

A management that is efficient and capable of obtaining cooperation from individual tenants for the benefit of the whole center

A unified architectural building group that looks like a shopping center and not an assemblage of miscellaneous stores.

Omitted from the above listing are the inflections, the interpretations, the innovations that must be made in order to apply these ingredients to your site and . . . local conditions.

Emporium Department Store, Stonestown Center, San Francisco, Welton Becket & Associates, Architects and Engineers

Site Selection

In site selection, the same principles will hold, but in varying degrees, whether the center is to be a small neighborhood development or a regional giant. The points to evaluate are:

location is of primary importance. Hugh Prather, owner-developer of Dallas, says, "The most important point in determining location is to be sure that your site is located near a well populated residential area or one that is growing so rapidly

that it gives promise of soon being able to support the size of shopping center you contemplate."

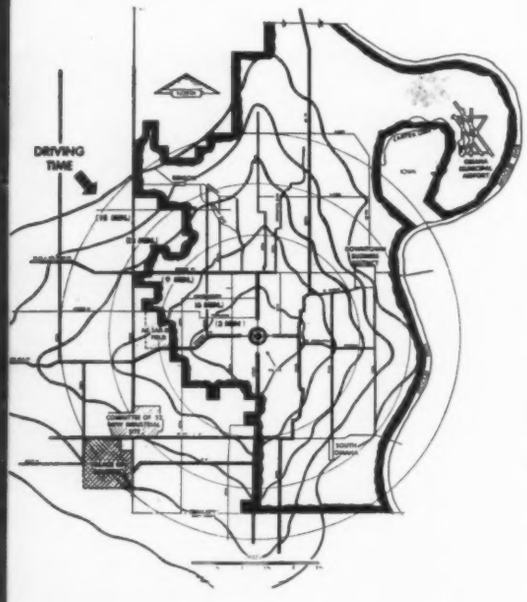
Charles E. Joern of LaGrange Park, Ill., gives these five points in determining location: "Purchasing power to be tapped, stability of income in the trade area, location and size of competition, future growth, and accessibility."

Another point is added by Walter S. Schmidt of Cincinnati: "The side of the street . . . can spell profit or loss. If the center is in an outlying area, retail stores should be on the right side of the outbound street to catch going-home traffic."

access is a very important consideration. Mr. Schmidt says, "A location at the intersection of two heavily traveled highways is not the best. If entrances and exits are too near a major intersection, the interference with through traffic can create a congestion problem. Traffic planning must make it easy to turn right into the center. It is better if the location is accessible to major highways rather than on them, though the ability to see the center from the highway is of great benefit for its advertising value."

As for regional centers, Mr. Schmidt adds, "To achieve the maximum accessibility the site should be at, near, or readily convenient to at least two main highways. If the location is adjacent to a high speed expressway, the turn-in facilities are important." A cloverleaf intersection is not best for convenience of access.

Driving time map reveals fallacy of old concentric-circle distance map in studying site accessibility. The Center, Omaha; see right page



Driving time distance plays a leading role in the accessibility of a site. According to studies made by the United States Bureau of Public Roads in cooperation with state highway departments, most shoppers are reluctant to travel more than 25 minutes by private automobile or more than six miles or 20 minutes by bus. The time element often plays a more important part than mere nearness, especially for the medium sized development. For more careful study of this factor, it is extremely revealing to plot driving times as contours on a map. Such an approach points up the fallacies of the old concentric circle method.*

size should be at least sufficient to provide the minimum acreage set up by the preliminary estimates from the market analysis. In estimating area needs, Mr. Seward H. Mott uses these guides as rules of thumb: "For an acre of ground, 10,000 sq ft can be allowed for gross store area. A car parking space takes at least 300 sq ft (including a proportion for travel lanes). On this basis about 100 cars can be parked per acre — this allows a 3 to 1 ratio."

The allowance of space to grow is a safeguard for the future, particularly with centers in mushrooming suburbs. Too often, a successful center is built without reserving extra land for future growth — not only for an increase in customer parking but also for additional sales area.

Another note: the site should be all in one piece. Mr. Potter adds for emphasis "Do not divide the shopping area by any cross traffic streets." Note, though, that a *minor* road through a site does not always interfere if carefully handled.

Another factor to consider is the **shape** *of the site, for it can often exert undue influence upon the resulting layout of buildings. Beware of the odd shaped area that can be purchased cheaper, for it may make good planning difficult to impossible, and it is often wise to pay a little more for logical trade lines and shorter walking distances.*

As for **topography,** *the older idea that the flat, open site is best no longer holds. Two-level parking which permits two-level entrance to department stores is today a popular arrangement; some developers even create such a multi-level scheme when they*

** New York Herald Tribune, March 10, 1953.*

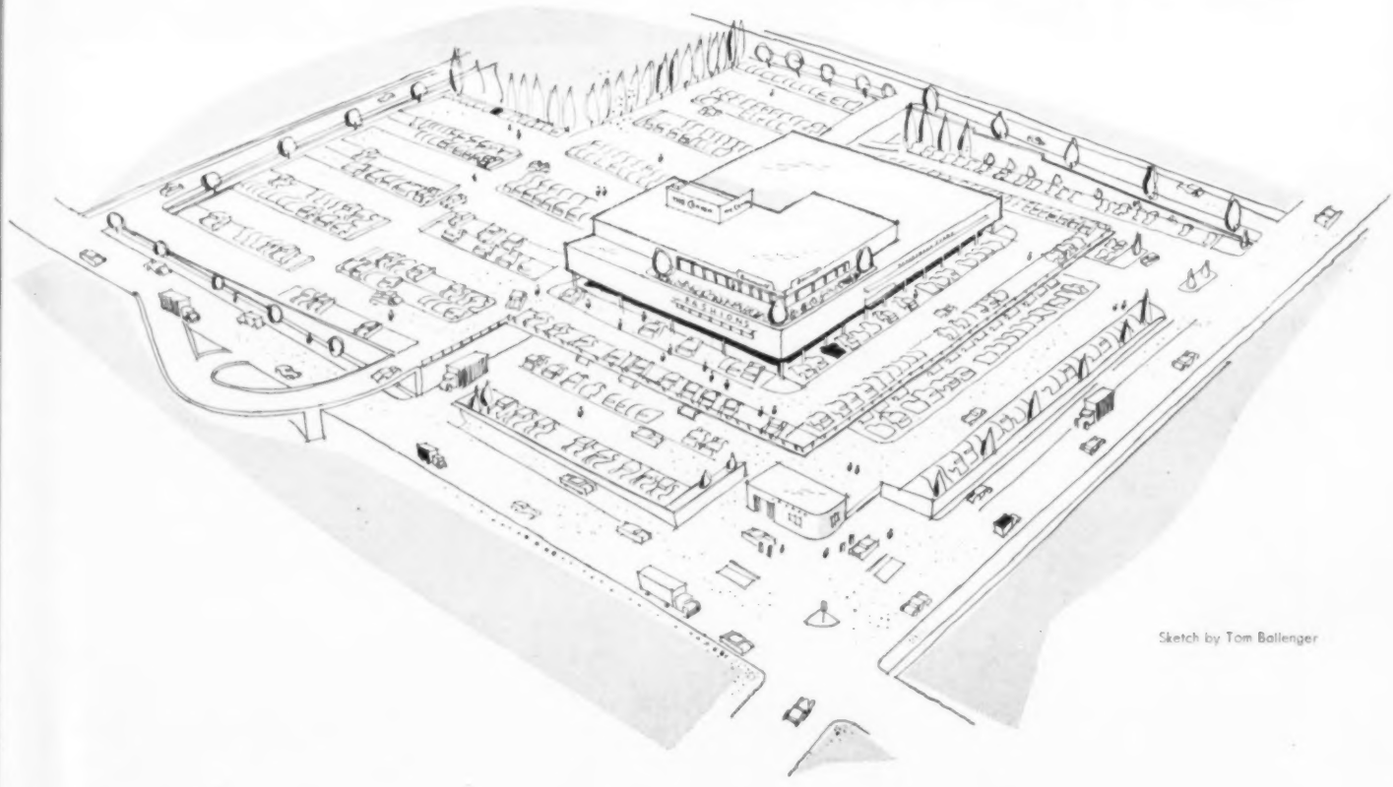
have a level plot. Under certain conditions, a sloping site can also make construction of delivery truck tunnels easier and cheaper.

sub-surface soil conditions *should be investigated at the earliest opportunity, for if unfavorable, they may make foundation work unduly expensive. Caution is advisable when such hazards as hydrostatic pressure, rock blasting, deep excavation, or others must be dealt with.*

utilities should ideally be near or in place. The problems of obtaining water, sewers, storm drainage, and power should be looked into before property acquisition proceeds too far.

If utilities are not in place, the cost of bringing them to the site must be added to the cost of the land.

Customer comfort in Nebraska's rugged climate provided by all weather air conditioned shopping space reached from two level parking. The Center, Omaha, Nebr.; Kenneth C. Welch and J. & G. Daverman, Architects, John A. Wiebe Co., Developer



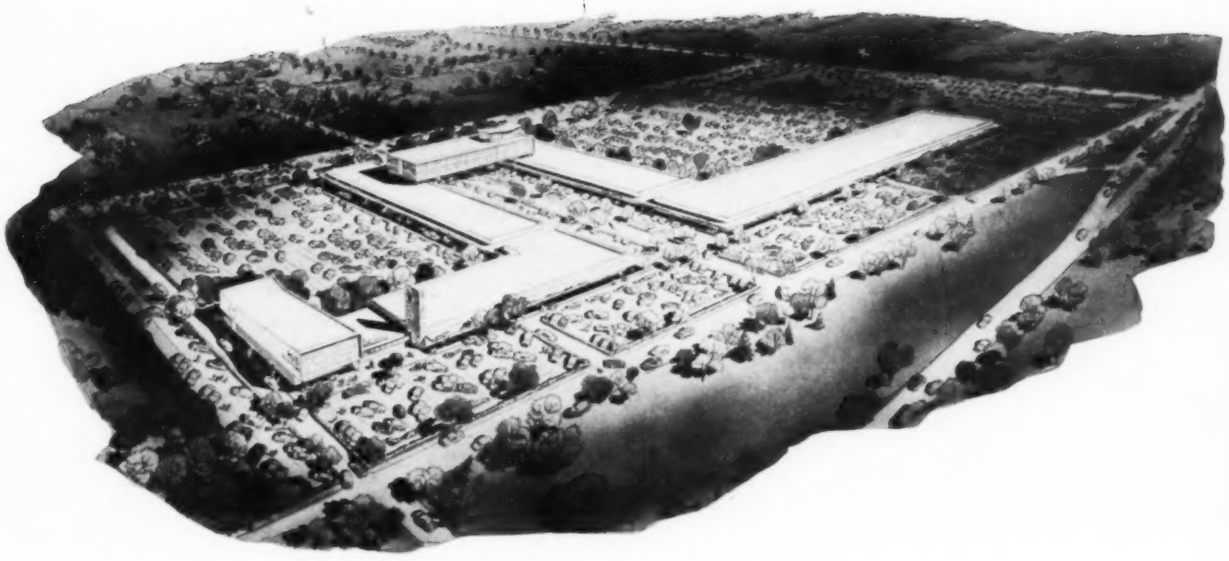
Sketch by Tom Ballenger

zoning for strip business locations along major traffic streets is the usual rule today unless the community has recently revised its zoning ordinance and map. Since such existing locations are unsuitable for the modern shopping center due to insufficient depth and cross cutting streets, new zoning or re-zoning, brought about by petition, will usually be necessary.

Sometimes there may be local opposition to re-zoning a tract of land for shopping center development, particularly if the center is to be close to a built-up single-family residential section. In such a local atmosphere, the developer must sell his ideas to the authorities and to the community. He must judge the local temper

Moulin Studio

A "cluster" plan with central mall and careful store grouping, above, features Architect Welton Becket's scheme for Hillsdale, San Mateo, Calif., as opposed to the ample garden and patio areas which impart an informal character to Pereira & Luckman's design, below, for Lancaster-Palmdale, California



Spanning a bisecting street with a two-story unit on stilts gains building area with smaller land coverage in The Hub, Hicksville, L.I., Morris Lapidus, Architect

before he goes too far. Where the center is to be located close to existing residences, buffer planting strips are essential to prevent adverse effect upon residential values.

In overcoming local opposition it is sometimes advisable to offer certain concessions to the authorities and the citizens. Perhaps a portion of the site can be set aside as a public park, playground, or for some other community use; sometimes it is wise to have local civic leaders serve on a committee to approve the building and landscaping designs for the new center.

There is a distinct trend in cities to incorporate in their zoning a "shopping center district" — the district defined as "developed as a unit under single ownership." This new use is in line with similar provisions for a "planned community district." Both these "districts" are an attempt to allow for large scale development geared to an overall plan. The objective is commendable for it seeks a way alternative to the conventional provisions of zoning geared to the single lot, and which only indifferently helped to promote large scale development. The waiver of single lot regulations for the above is the way shopping centers should be zoned.

the final choice involves being sure the site is the best possible from every point of view. Weigh the points on this check list:

1 — Properly located; nearby residential walk-in trade is valuable
2 — Easily accessible by automobile and bus
3 — Sufficient size; room for expansion; all in one piece
4 — The right shape; no grading or sub-surface problems
5 — Utilities in place or at least nearby
6 — Favorable zoning
7 — The right price

Planning the Site

customer circulation

The store grouping starts with thinking about the key tenants and ways to p them so that advantage can be gained from the pull of customers to and thro the center. Mr. L. E. Fite, owner-developer of Jefferson Village, San Anto points out: "The important thing is to distribute the pull and to lead the custo past the smaller tenants as they are drawn to the pullers."

the number one tenant

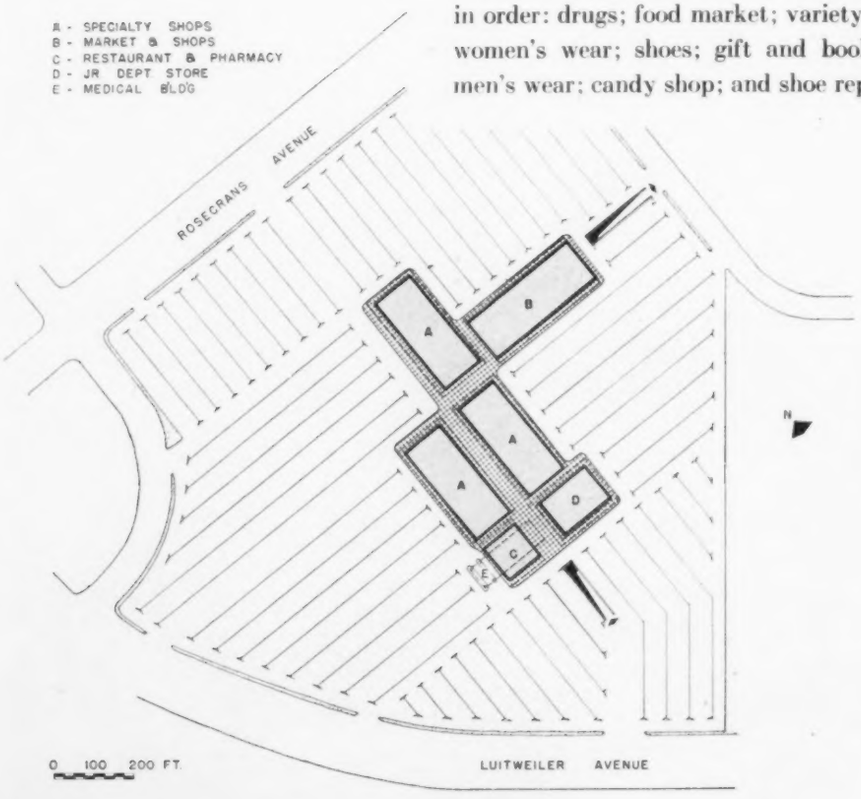
In speaking about shopping center problems, Dr. Homer Hoyt, eminent mar analyst, makes a useful classification of centers by means of designating t number one tenant. He says, "We may divide them into four types:

Class 1 — The large regional center with large department store (or two)
Class 2 — The center with a junior department store as the largest unit
Class 3 — The center with a variety store as the largest unit
Class 4 — The center with a supermarket as the largest tenant."

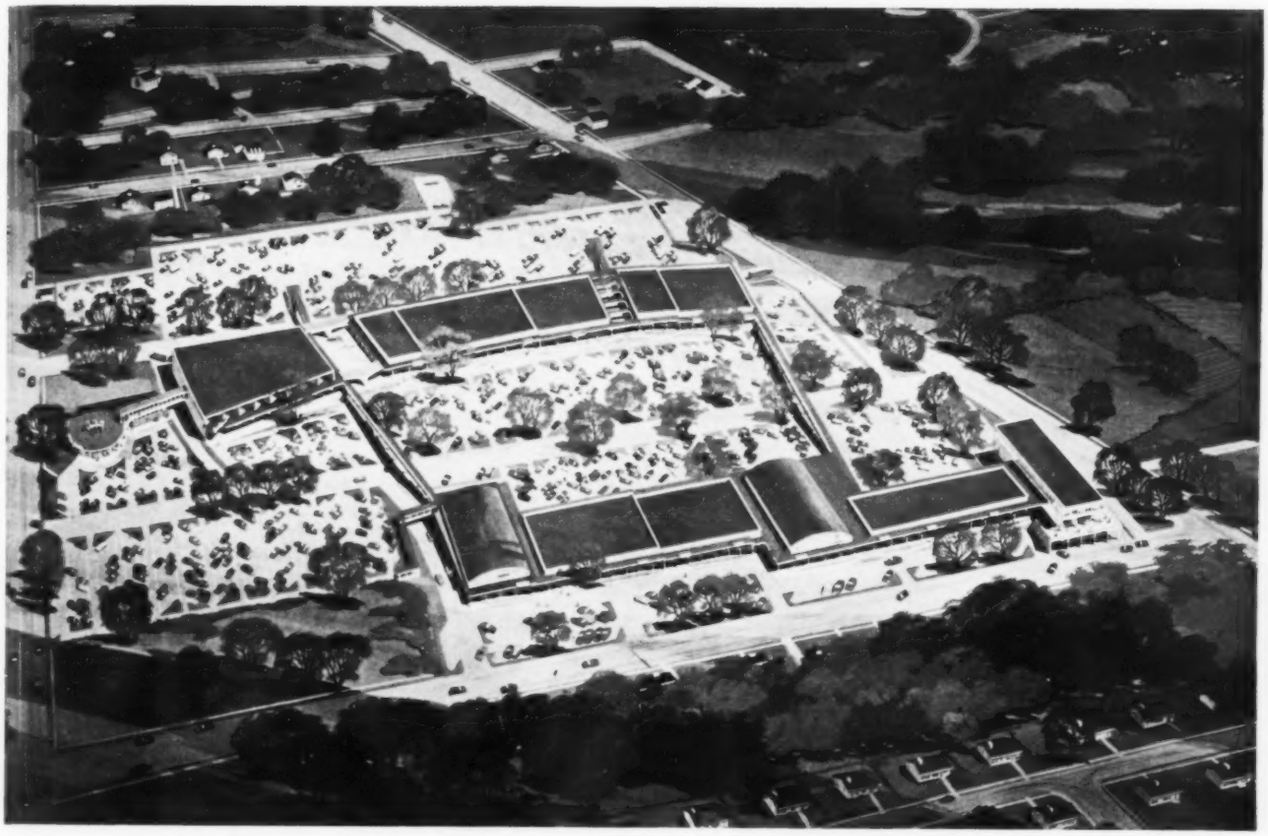
For the neighborhood center (Class 4) the Council believes that the best locat should be filled by the drugstore with the supermarket placed for convenienc parking. In the suburban or community center, the number one tenant may either the junior department store (Class 2) or the variety store (Class 3). The Co cil is thinking of some tenant such as Sears, Ward, or Penney in the departm store field. In this kind of center with 20 to 40 stores, it is well to have both department store and the variety store together with a super food market — o in prominent spots.

In a large regional center, the large department store is the number one tenant the only variation being whether to have one or two department stores.

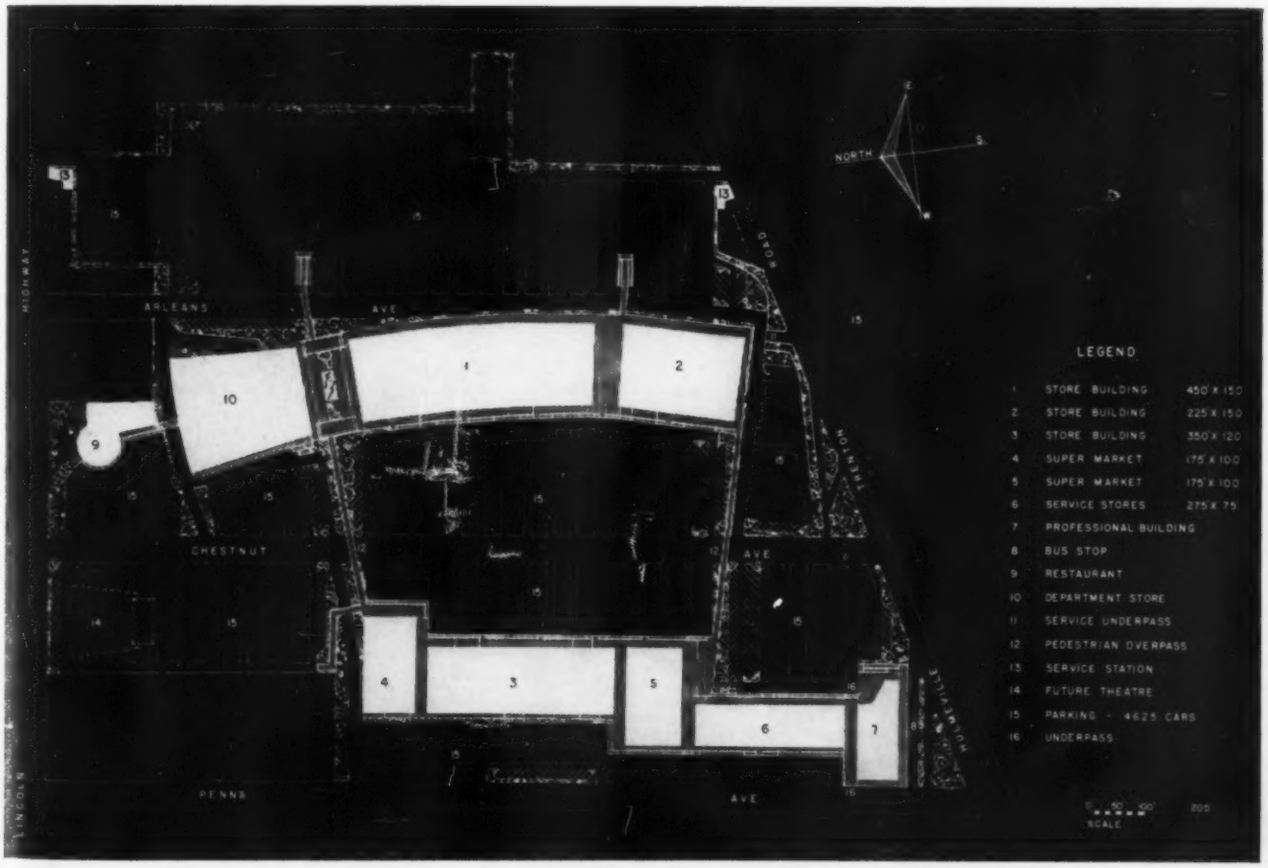
In the Community Builders' Council, there has been a lot of discussion about most valuable businesses in a center. Local conditions naturally cause variati but the Council finds the most popular types of businesses in existing centers in order: drugs; food market; variety stores; bakery; dry cleaner; beauty par women's wear; shoes; gift and bookstores; children's clothing; jewelry; bar men's wear; candy shop; and shoe repair.



With a supermarket and junior department store at mall extremities, pedestrian traffic is pulled past specialty shops in Welton Becket's scheme for La Mirada, Calif.



Architect Morris Lapidus copes with two bisecting streets by means of pedestrian overpasses in his design for the Falls Shopping Center, Fallsington, Pa.



store grouping — in general

With the number one tenant selected, the next step is the site layout. There are varying arrangements for buildings. They are: the strip, the L, the U, the ring, the mall, and the cluster. Adaptations of these change in order to fit the site. The mall and cluster are more suited for use in large regional centers, while the strip, L, and U are more usual in smaller centers. The ring is rarely circular but rather is descriptive of a group spaced about a central open area.

In designating stores within a grouping, the first consideration is proper selection and arrangement to draw more customers to all the stores.

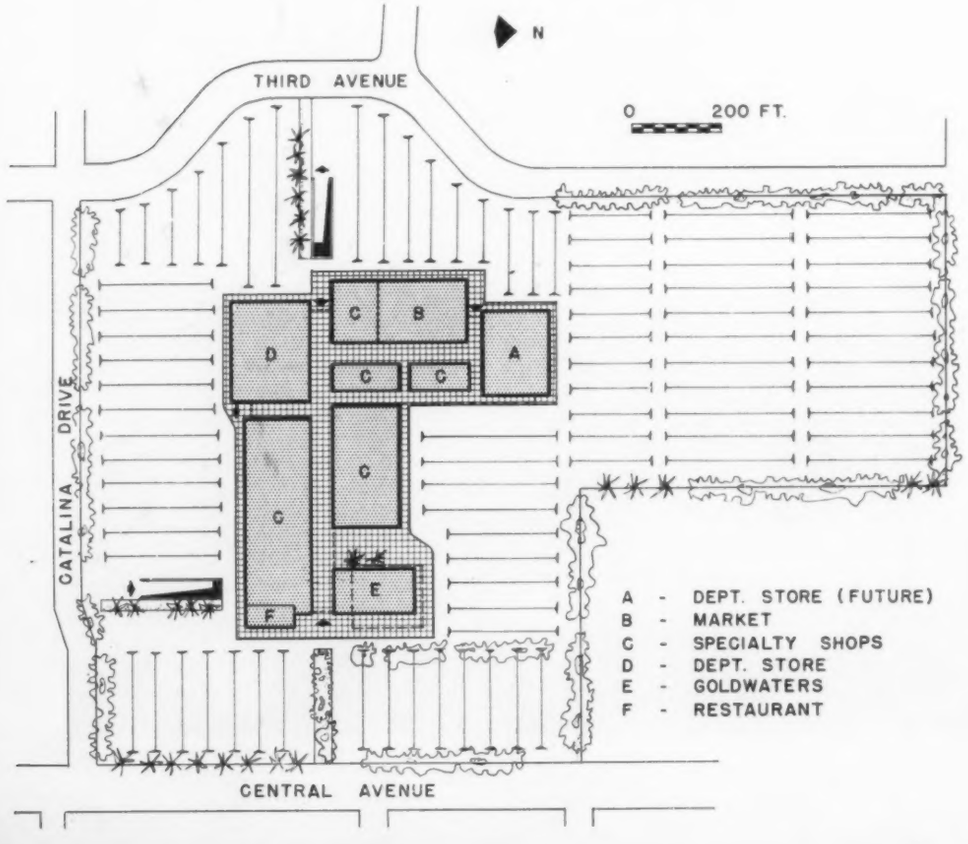
It is difficult to overestimate the importance of locating the "puller" stores in such a manner that pedestrian traffic is routed past the smaller stores handling impulse items. This makes for the success of the entire center.

Another principle in store grouping lies in taking care that all convenience goods stores are as close as possible to parking. John Taylor remarks, "The grouping of stores in a successful center will be the result of planning store locations so that their relationship one to another will be of the utmost benefit to all."

J. W. York, owner-developer of Cameron Village in Raleigh, emphasizes this idea: "Experience shows that it is the supermarket that helps the department store." Theoretically, it would seem that the department store would be the big frog, but the supermarket is proving to be the department store's best neighbor.

The Council has said repeatedly that stores complementing each other should be placed together. For example, shops catering to women should be close together; service and repair shops may be grouped; groceries, services and 5-and-10's complement each other. In assigning locations to prospective tenants, it should be noted that the Council urges second floor locations for doctors and dentists; or better still, a separate, detached "medical clinic" type of building for them.

An L shaped plan on an L shaped lot which incorporates three department stores and truck tunnel service particularizes the Park Central Center in Phoenix, Ariz., Welton Becket & Associates, Architects



In strictly architectural terms, the site design should be based primarily upon a free flow for four kinds of traffic: shoppers in automobiles; shoppers walking to and from parking; service and freight trucks; and pedestrians within the building group proper. The object, of course, is to eliminate interference between any of these and at the same time provide maximum shopper flow past all the stores so that all the locations become "100 per cent locations."

store grouping in regional centers

In the big center, the architectural plan must place small tenants in the path of pedestrian traffic moving between the larger tenants — department stores, supermarkets and drugstores.

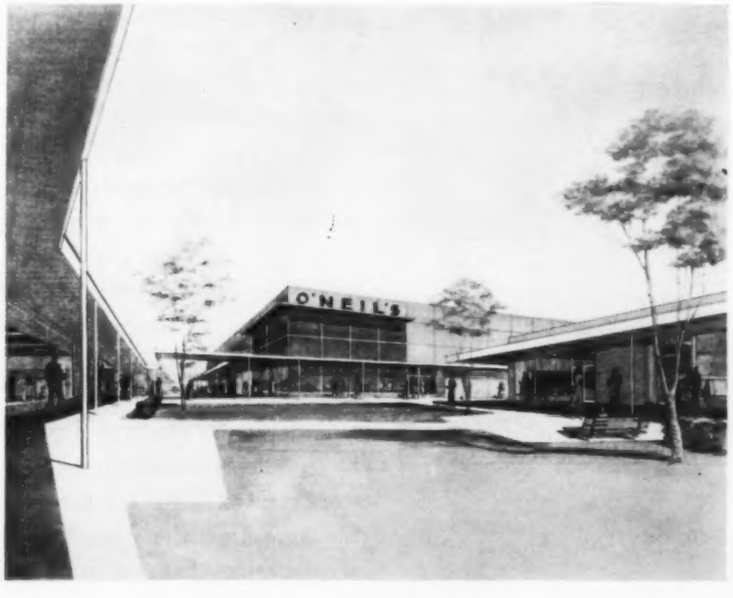
"A regional center must be self-sufficient," Mr. Flaherty emphasizes. This characteristic underlines the importance of proper grouping. This "self-sufficiency" means that in addition to the big pullers, there must be a full range of merchandise available to the shopper — including everything found downtown. This completeness implies competition within the center — which is good for the center and good for the merchants. It keeps merchants on their toes and gives shoppers the comparison they want to be able to make when shopping. James B. Douglas, president of Northgate, says: "Put in two markets, two dress shops, two drugstores."

To say it another way: the center should be like another "downtown," the size of which depends upon estimated volume based on the market analysis. Having competitive stores close together is what makes downtown go — yet this widely accepted fact is sometimes lost sight of in shopping center layouts.

to combine or to separate?

The big problem here comes in locating the stores within the group. For example: is it desirable to group all the food stores or to separate the two supermarkets? This query brings into focus the basic problem of grouping — whether to bring stores

Architects Weinberg & Teare's double bow shaped mall provides a pleasant openness for the O'Neil Sheffield Center, Sheffield Township, Ohio



of one kind into close relationship for convenience and competition or to separate them to spread pedestrian traffic.

When the supermarkets adjoin, the load on the parking space is unduly concentrated; this is one good reason for separation. Placed together, servicing is easier to arrange; besides, comparison shopping is easier for the housewife.

Hugh Prather's experience speaks for grouping: "We put a supermarket and a service grocery together and it works beautifully. Food store grouping is important — they complement each other. In high grade centers women wearing slacks buy groceries in the morning, return for luncheon and go dress shopping in the afternoon."

Mr. Seltzer of Philadelphia also votes for grouping: "In our large center we group fashion shops and have the less expensive type of merchandise in another section. When the department store was asked about having a food store nearby, they replied that they would take *one* high grade food store for a neighbor. The load on parking was the reason for their objection.

The smaller neighborhood center in strip form, with separated service, is illustrated by the Bissell Hills Center, St. Louis County, Mo., as drawn by P. John Hoener & Associates, Architects

Mr. Bohanman favors separation: "At Hillsdale, we dislike putting food stores together even though it may be a service to the public to do so. The parking required is greater than for any other kind of soft line store. We are planning one big supermarket at either end of the mall with a Sears and Penny at either side. Women won't go to two supermarkets on the same day; one-day-a-week food shopping is the trend, and we want to encourage other shopping on the same trip.

Here we find the experts in disagreement about the question of grouping or segregating similar kinds of stores, and no pat answer seems apparent. More experience may tell.

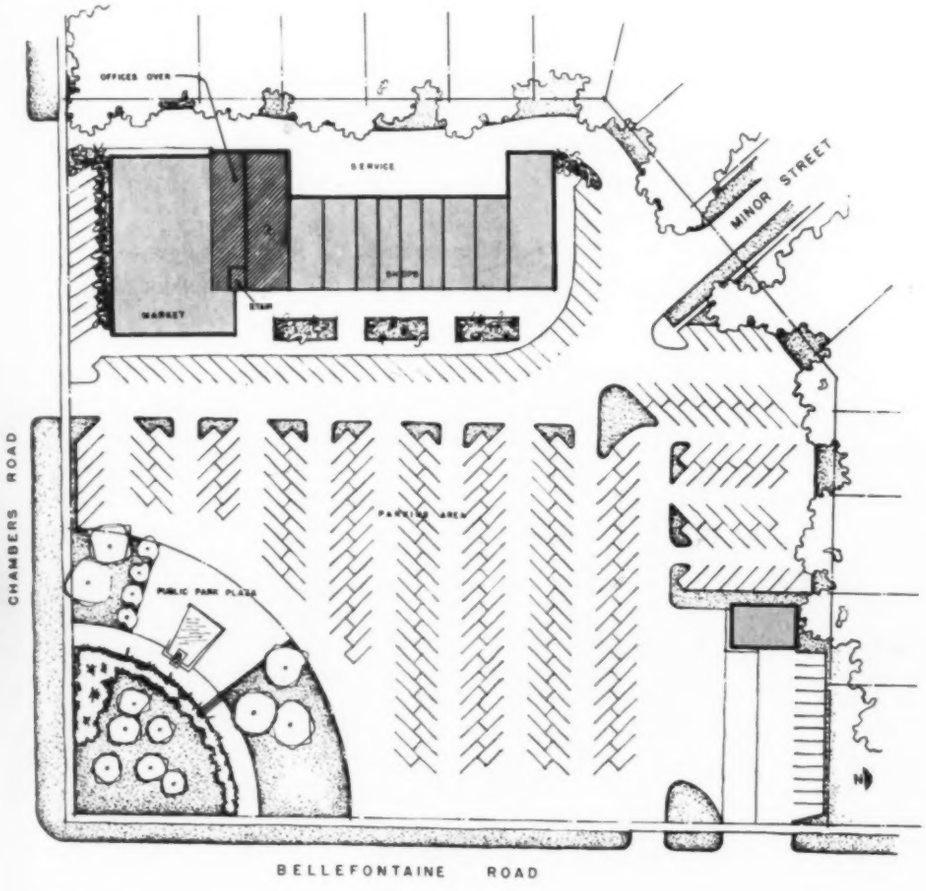
where to place the department store

In a regional center, the department store is the puller. A junior department store should be separated from the large store, as should the second large store, should there be one.

Larry Smith, economic analyst, points out: "The shopping center developer should be sure he gets the maximum benefit from the pedestrian traffic the department store creates. If the smaller stores do not benefit from the foot traffic to and from the large store, the owner has lost the very thing for which he negotiates in signing the department store lease. Be sure that the plan provides maximum benefit to all stores resulting from the pull of the department store."

small service shops

Locating small stores comprising 500 to 1000 sq ft of sales area is important, for these stores pay high rentals, add interest for the shopper, and contribute to the completeness of the center. One suggestion for a frontage location for shops of this type is the pedestrian passageways leading from parking to mall, as at Northgate. In this manner, blank walls are avoided and good spots are provided for the little shops and for impulse buying. Such shops — yarn, dress pattern, costume jewelry — generally receive stock shipments by parcel post and do not need to be directly accessible to truck service.



store sizes

Walter Schmidt says: "Store depth should be 100 to 140 ft. A depth of 120 ft is thin for major stores. Many chains ask for 140 ft and self-service drugstores now want 160 ft. Where there are no basements, such stores require nearly as much storage area as sales space. Stores of 125 to 150 ft in depth are needed."

Optimum size for supermarkets seems to run from 18 to 20 thousand sq ft. The Council cautions that supermarkets can become too big; a long trip from the checkout stand to pick up a forgotten item will cause the shopper to go next door or wait until the next trip. The supermarket area is often divided 80 per cent sales space and 20 per cent storage and produce space. Self-service packaged meats reduce the latter figure 65 per cent.

A department store in a center should not occupy more than one third of the total gross building area. In one regional center having a 600,000 sq ft total gross building area, a department store of 200,000 sq ft seems to be about right.

As mentioned previously, a rule of thumb guide for estimating purposes is to figure about 10,000 sq ft of gross building area for each acre of site.

The Necessary Parking

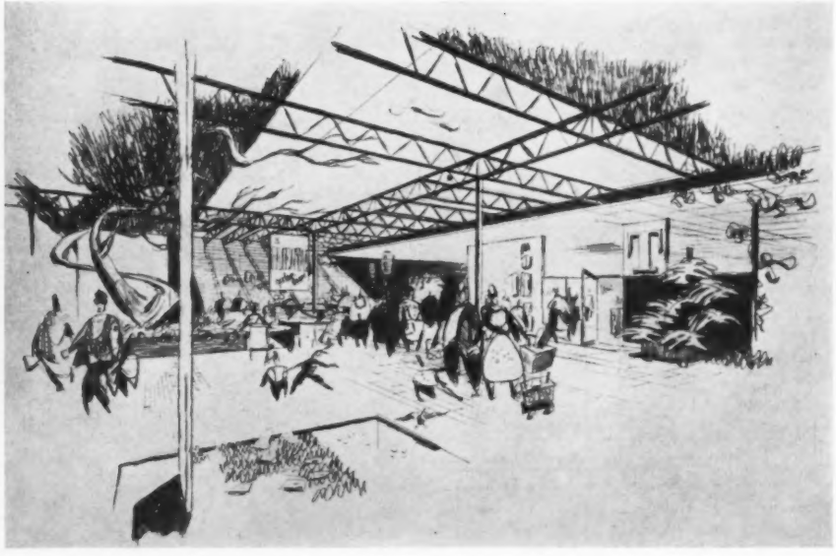
The space for parking is an indispensable element in shopping center design, and in providing it, the two main questions are: how much? and how best to arrange it?

how much parking?

To describe the area needed, a measure has come into being: **the parking ratio.** This ratio is the relationship of the parking area to the building area. The building area may be the gross building area or the net sales area.

For preliminary planning, the ratio of parking area to gross building area is the most practical way of gauging the desirable amount of parking, for it is impossible to determine the net sales area accurately until the building is complete. The attempt to determine a relationship based on complicated formulae of average sales, customers per car, and turnover per car space entails too many assumptions. Ultimately, however, the ratio should be based on the number of car spaces provided for the total sq ft of sales space.

A ratio of car spaces per 1000 sq ft of gross building area (first floor area, basements, mezzanines, and upper floors, but excluding service areas outside the stores,



Renderings and plans of the Waialae Shopping Center, near Honolulu, are shown on these two pages. Victor Gruen, Architect; Rothwell & Lester, Associated Resident Architects; Larry Smith & Co., Economic Consultants.

The open three-part plan will be constructed in nearly equal increments, and the generous site will provide ample parking area and buffer zones.

The structural system features open-web steel joists on a lightweight post and lintel system arranged on a modular pattern. Open-web joists will support tropical flowers and hanging plants

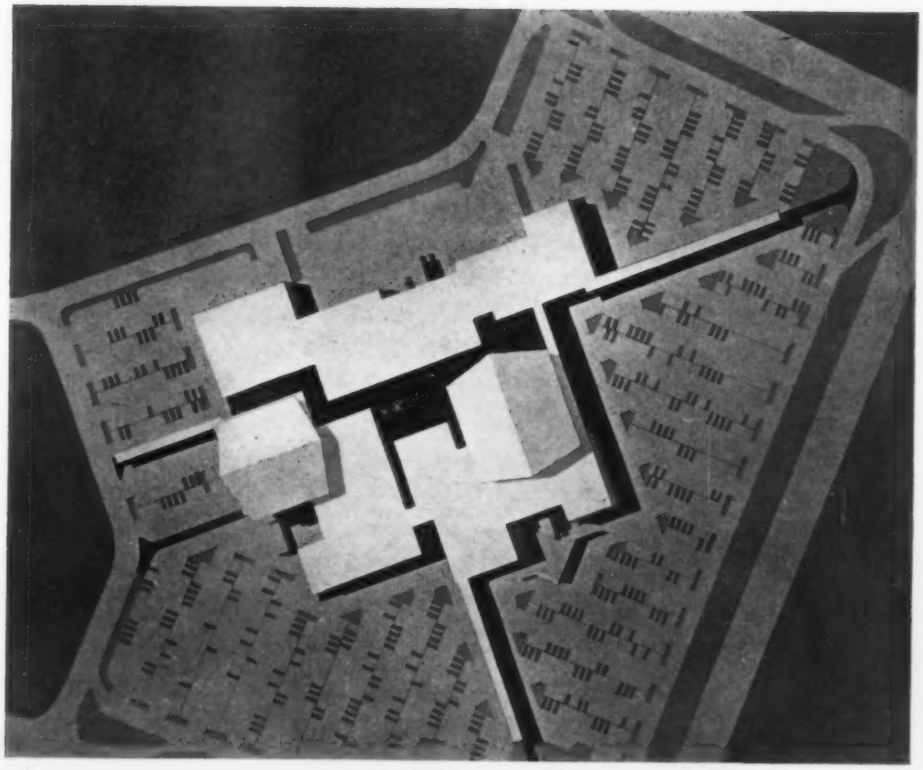
such as boiler rooms, truck tunnels, truck docks, etc.) is an accurate way of arriving at the parking required. A ratio of 2 sq ft of parking to 1 sq ft of gross building area (a 2 to 1 ratio) produces 6.7 cars (say 6) for each 1000 sq ft of building. A ratio of 3 sq ft of parking to 1 sq ft of building area (a 3 to 1 ratio) produces 10 cars per 1000 sq ft of building.

The 2 to 1 ratio is suitable only for a neighborhood center with a high parking turnover and a large percentage of walk-in trade. Elsewhere, the minimum satisfactory ratio is 3 to 1, and more is preferable.

In determining area, at least 300 sq ft must be allowed for each car. This figure includes a percentage assignable to moving lanes. But where there are access drives, pedestrian walks, storage magazine areas and landscaped areas to be incorporated, 400 sq ft per car is the correct allotment for estimating.

At Shoppers' World in Framingham the ratio is 15 cars per 1000 sq ft of store area or a ratio of 4.5 to 1. Such an arrangement is satisfactory even for the December peak.


A - SPECIALTY SHOPS
B - DEPT. STORE
C - SUPERMARKET
HUNAKAI STREET
WAIALAE AVENUE
KILAUEA AVENUE
0 100 200 FT.



arranging the space

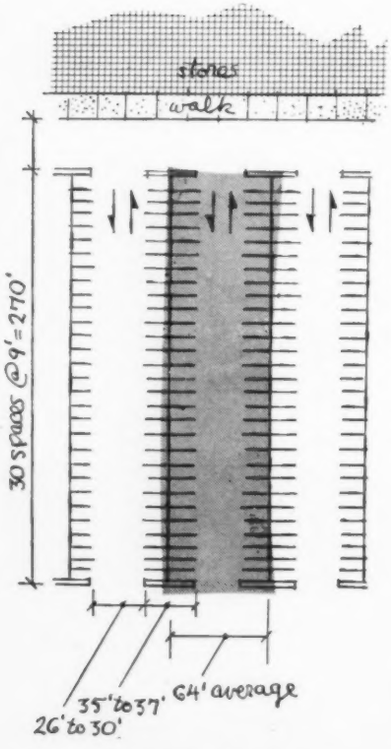
The act of parking at a shopping center must be simple, trouble-free, and safe. The shopper should be able to find his way around without any previous study of the site. Complicated arrangements confuse the driver and often require directions from attendant (which is expensive for the owner).

Shopping center parking is best a do-it-yourself procedure, because it is cheaper, smoother, entails no waiting, and is best for rapid turnover. The only case in which attendant parking is justified is for the center on expensive land ($3 or more).

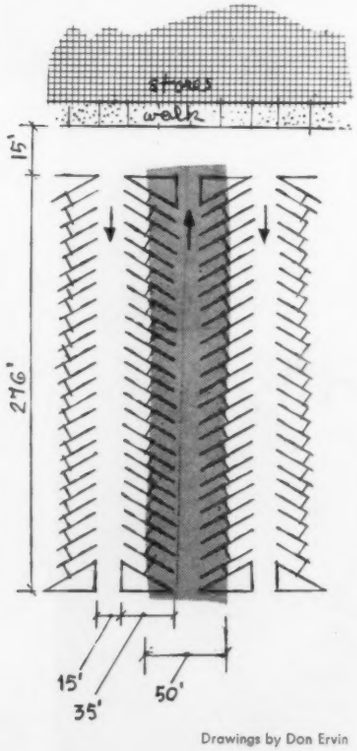
As for general arrangement, Walter S. Schmidt says: "Spread the parking to distribute it equally on all sides of the center. People should not have to walk too far to reach the stores from their parking space. Try to limit the depth of parking to 300 or 350 ft each side of the store group."

Ease of circulation and safe movement for pedestrians and vehicles is of paramount importance. In addition, truck service traffic and consumer traffic should be segregated. The best arrangement is one that leads the shopper directly to the stores from his parked car.

Several experts maintain that the main customer traffic should enter and deploy on a peripheral road which acts as a sort of traffic circle for the center, and that traffic near the stores should be discouraged in plan. A completely separated pedestrian walkway next to the stores is a good feature. It is advisable to limit vehicular access to the stores to a few selected key store entrances and a few passenger pickup points. A good scheme is for parking bins to have two-way aisles and open to the peripheral road; this plan keeps all traffic away from the area next the stores except for the few key stations mentioned above. Arcades which pierce through the stores at strategic locations provide a good means of pedestrian access from parking, provided they are spaced close enough to be convenient yet not so close as to create too much unproductive area.



Two preferred parking patterns: "perpendicular" and "angular"



Drawings by Don Ervin

There are two preferred patterns for parking bin arrangements: angle or perpendicular. Perpendicular or 90 deg parking is generally favored because it combines economy of space with ease of circulation. It allows two-way movement, elimination of expensive curbing, better sight lines, and greater safety. When used, a width of 65 ft is required for two tiers of cars separated by a central two-way aisle.

Angle parking allows for easier entering of a stall and for one way traffic and also narrower bays. Where 45 deg parking is used, minimum width of bays can be 50 ft with one-way movement. With two-way movement, 60 ft is required. Angle or herringbone patterns are advisable only for areas where the space is restricted or where local preferences govern.

The width of the parking stall should be 9 ft, measured center to center of a 2-in. painted space-marker line. Mr. J. W. York says, "If you use an 8 ft width, you will lose more space from straddlers than if you mark the area at 9 ft."

pedestrian strips

Raised walkways between rows of parked cars are not needed. Most people prefer to walk toward the shops on the wider car driveways. "Where you have plenty of cheap land," states Hugh Potter, "we should favor putting in a wide pedestrian strip. But where land is tight, we eliminate the strip but usually provide some bumper protection." If such strips are used, they have to be at least 7 ft wide to allow for bumper overhang and the passage of two people abreast. There is general doubt whether walkways are worth the cost and the space involved. Also, they are an obstacle to snow removal.

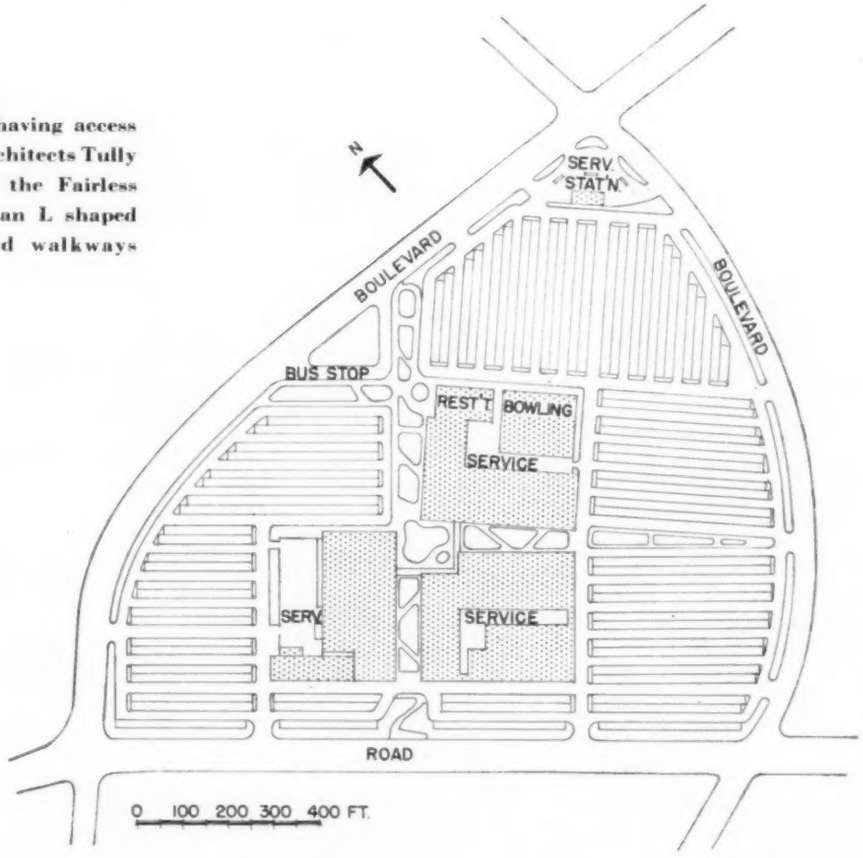
pavement

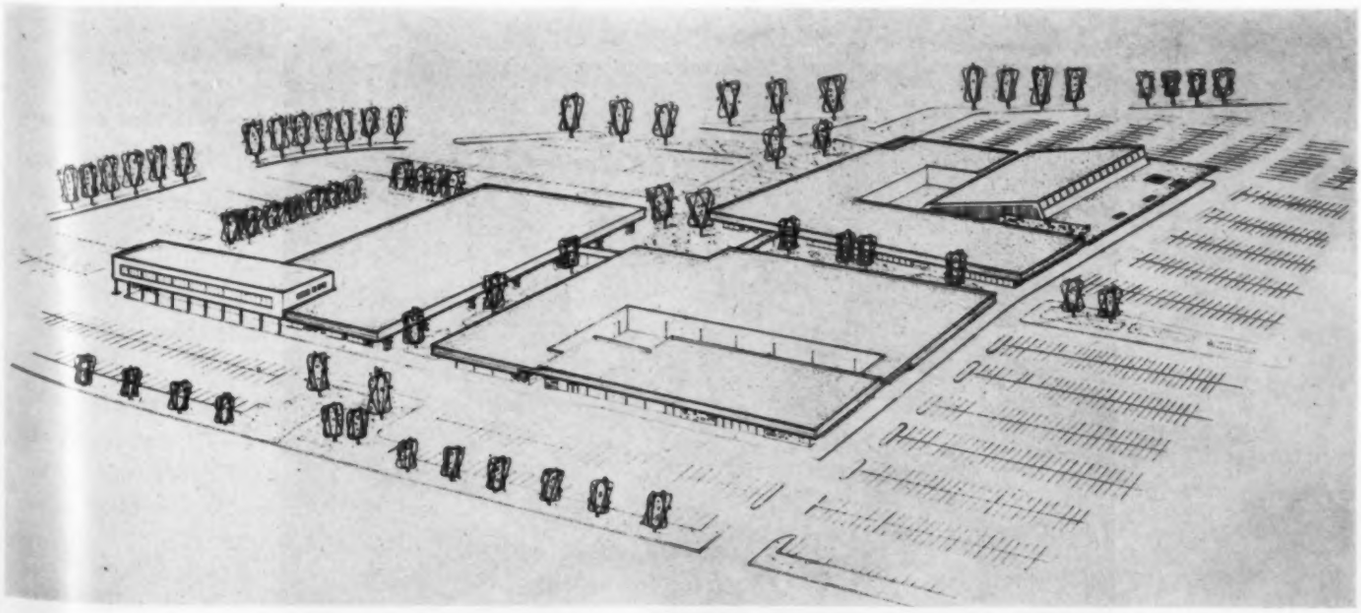
Concrete surfacing is expensive, while black-top is satisfactory providing it is well drained. Where there are great expanses of pavement, trees and planted areas should be introduced to eliminate the otherwise barren and unsightly appearance. Best markers for the parking stalls are either painted lines or metal buttons.

employee parking

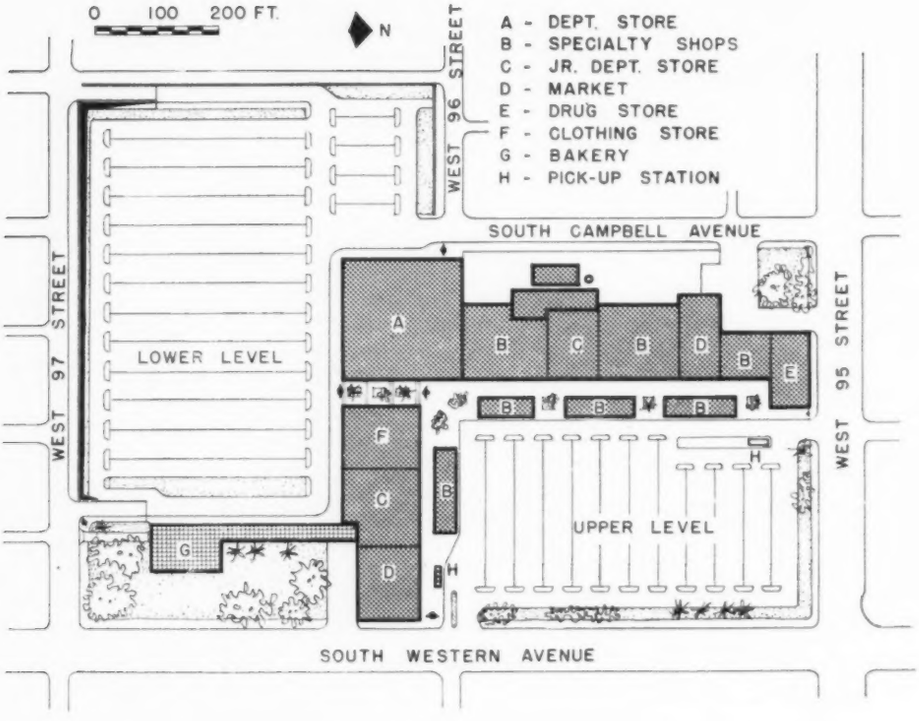
Short-time and all-day parkers do not mix; and employees are all day parkers. If they are permitted to park indiscriminately, they will be using shoppers' space that

On a heart shaped plot having access from three main roads, Architects Tully & Hobbs have designed the Fairless Hills, Pa., center about an L shaped mall linked by covered walkways



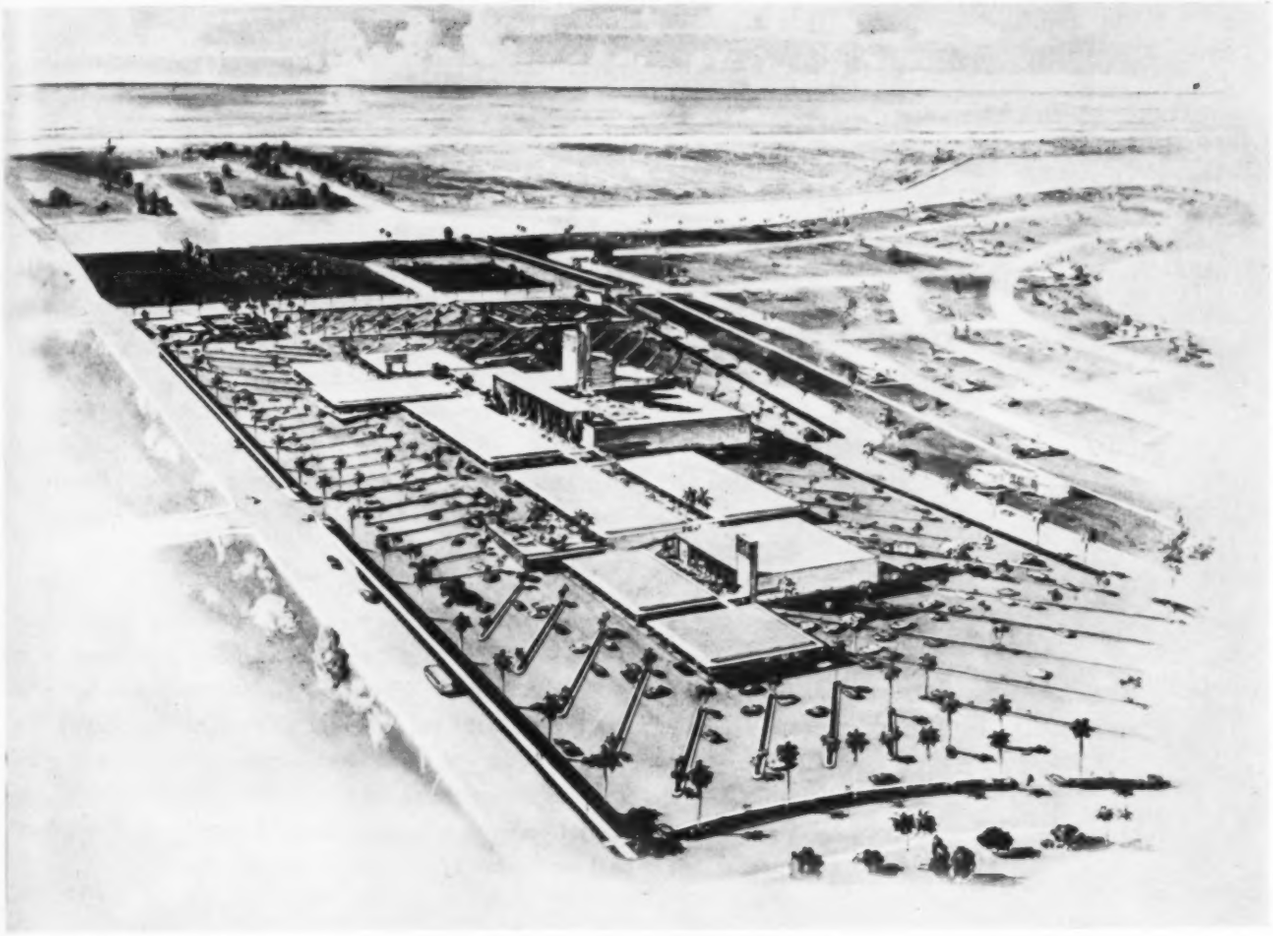


Bill Hedrich, Hedrich-Blessing—for Minneapolis Honeywell



An L scheme served by two level parking which incorporates three main stores characterizes the plan for Evergreen Plaza, Chicago. Howard T. Fisher & Associates, Architects & Engineers; Holabird & Root & Burgee, Architect-Engineer; Arthur Rubloff, Developer

Chicago Aerial Survey Co.



Adjacent to a 100-acre residential development, the Sunrise Shopping Center in Fort Lauderdale, Fla., is located in a rapidly expanding area. Gamble, Pownall & Gilroy, Architects & Engineers

should be turning over four or five times a day. A special area should be assigned to employee parking and violations sternly dealt with.

At J. W. York's Cameron Village we find an indication of the amount of employee parking: "There are 145 cars for 500 employees in a center of 234,000 sq ft gross building area. This means that there are 145 basic cars to contend with, or less than 1 car for each 3 employees."

Services, Amenities

service and the mall

The mall has many advantages for the larger center: it creates a pleasant, landscaped business street free of traffic hazard; it creates many strong locations; there is no "best side of the street"; by double-decking stores along the mall, building area can be doubled without increasing walking distance from parking.

Another point favoring the mall in a regional center is the possibility of the complete separation of truck service and pedestrian shoppers. This is accomplished by building a truck tunnel under the mall, as has been done at Northgate in Seattle, Stonestown in San Francisco, and planned for Northland in Detroit and Hillsdale in San Mateo. But, the truck service tunnel is expensive. "A truck tunnel will cost about $800,000." When the truck service tunnel can be afforded, it offers the ideal solution to the problem of separating customers and deliveries.

Without a service tunnel, the mall scheme requires that service courts be provided. The problem then becomes one of screening the courts from view. Such courts must be large enough to permit truck maneuver within their area, and if not carefully handled, give a "backyard" appearance. The Shoppers' World at Framingham is a regional center with rear courts adjacent to the customer parking areas.

In the smaller center, the difficulty in separating pedestrians and service delivery can hardly ever be justifiably solved by either a mall or tunnel.

landscaping

Planting and seasonal floral displays in appropriate places within the center add to its attractiveness and customer pull. The best advice of the Council is to have some, but since maintenance cost is high, to budget it. Where wide expanses of paved parking area occur, it is advisable to have trees and carefully placed planting. "Barren parking lots are terrific eyesores, and you have to break the expanse."

buffers

When the center is near a residential area, it is necessary to insulate against any adverse effect of commercial use upon the adjacent residential development. A buffer strip at least 20 ft wide and preferably densely planted should be used. "Where such buffers are not possible, the use of walls, solid fences, or narrow but dense foliage should be provided. Failure to install permanent and effective physical separations between business and residential uses will detract greatly from the desirability and value of the latter." For a large regional center, the buffer should be extensive, and can in part be reserved for later expansion.

basements and storage

The answer to the question, "When are basements best?" depends largely on site conditions, such as topography and sub-soil considerations.

Stores require storage space and the basement is good for that purpose. Also, the basement can later be converted to merchandising space should expansion occur. In lieu of basements, balconies are required (necessitating higher ceilings), or the store must be deeper. Another storage device, particularly where stores are shallow, is to provide (on a secondary plot location) a storage building which can be leased to individual tenants according to their needs. Examples are Town and Country in Sacramento and River Oaks in Houston.

Such stores as furniture and variety chains want basement areas for display and merchandising. But basements, like second floor areas, seldom bring an adequate rental, income generally running ¼ to ⅓ of that from the first floor.

In the large regional center basements are a must, and can be scooped out at the same time the truck tunnel is excavated.

second stories

Second floors do not necessarily increase earnings, particularly in neighborhood centers. Extra costs are involved in construction, plumbing, heating, lighting, and maintenance. A two-story center building does not too often pay. Second floor tenants are all-day parkers and their visitors are generally long-time parkers who are not shoppers. It is uneconomical to provide elevators for the second floor.

Doctors and dentists are not the best second floor tenants since the sick patients and healthy shoppers hardly mix well, and a trip to the dentist is seldom combined with a shopping spree.

Should second floor space be provided, the suitable kinds of tenants are those who

pull people to the center at regular and frequent intervals; who have visitors who do not park more than an hour or two; and who require no display space downstairs. Dance studios, bridge or language teachers and similar occupants are suitable second floor tenants.

package pick-up stations

Handling arriving goods at the center is a problem in itself, usually solved by planned arrangements of service courts, truck tunnels, or rear service roads; but the carrying home of their purchases by the customers is a separate problem. It is far more satisfactory for both seller and buyer if articles can be taken home at the time of purchase. But a bundle-laden female is unlikely to stroll past stores, even to do some window shopping.

An L plan centering on a pedestrian mall in an unusual shape characterizes Architects Weinberg & Teare's scheme for Lyndhurst, Ohio

Supermarkets have pioneered with carry-out service. But this is an expensive operation and the real answer must lie in some form of package pick-up station. In operation, the shopper checks her bundles, goes to her car, and then drives to the special station where, in return for a check, an attendant loads her car. The mechanics can vary, but a system can easily be worked out to solve the bundle-toting problem. A sound approach at the neighborhood center level is to have parking as close as possible to shopping.

Variations

service stations in shopping centers are fitting and proper if their location does not interfere with parking lot circulation. They must occupy a prominent place.

We quote Hugh Potter, owner of River Oaks in Houston, which includes two service stations, who says, "You must segregate the filling station area from the customers' parking area. In order to put the filling station in a prominent place, you must have a good-looking structure; it must be kept clean and its traffic must be separated. There is no reason why a properly handled gas station cannot be attractive."

Mr. Bohannon adds: "If you are uncertain about the filling station, you can make a lease of 10 years or so. Lease the ground and take a percentage of sales (about 1¢ per gallon) and other revenues. If the station offers service, it should have an area for car storage."

offices can be better accommodated in a separate office building than in second floors over stores. Such a scheme allows special parking space, separated from the shoppers, which can be easily regulated.

Doctors prefer a one-story clinic type of building or one with elevator facilities. A separate building is best because their professional needs are special and for such they must pay higher rentals. Hugh Potter says: "Whatever you do, do not mix doctors and lawyers in the same building."

An office building brings people to the center, but must have its own parking area and be capable of handling all-day parkers. Provide sufficient site area to handle the special parking and traffic flow to this area.

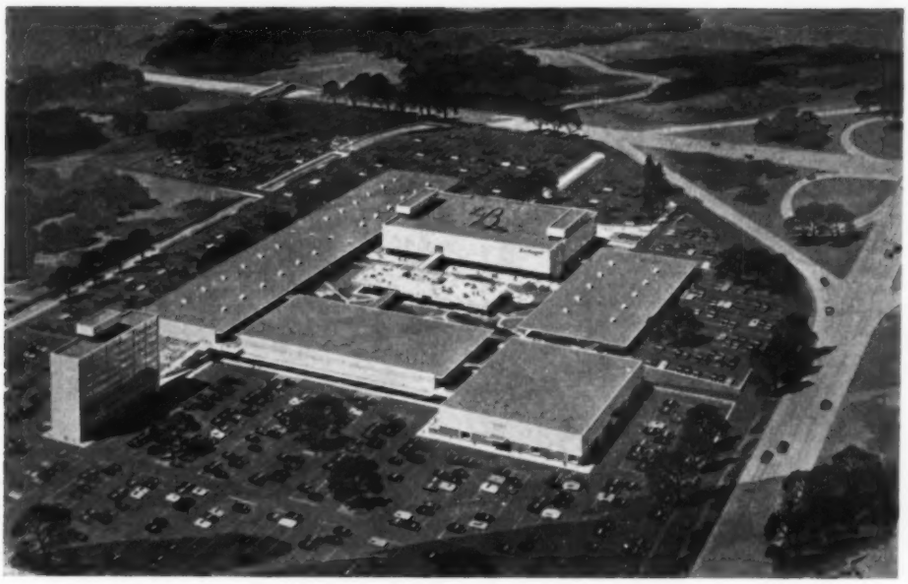
an automobile row is not good in a shopping center.

banks in shopping centers are great conveniences. They generally pay a fixed rental at a high rate, although one developer reports that he gets $\frac{1}{10}$th of 1 per cent of all deposits as yearly rental. In lieu of a bank, a California development of interest serves as a "currency exchange," which cashes and issues checks. Such a business is good near a large population of factory or defense workers. The exchange takes a small area and pays a high rate — $10 reported by one operator.

bowling alleys are suitable in a secondary location.

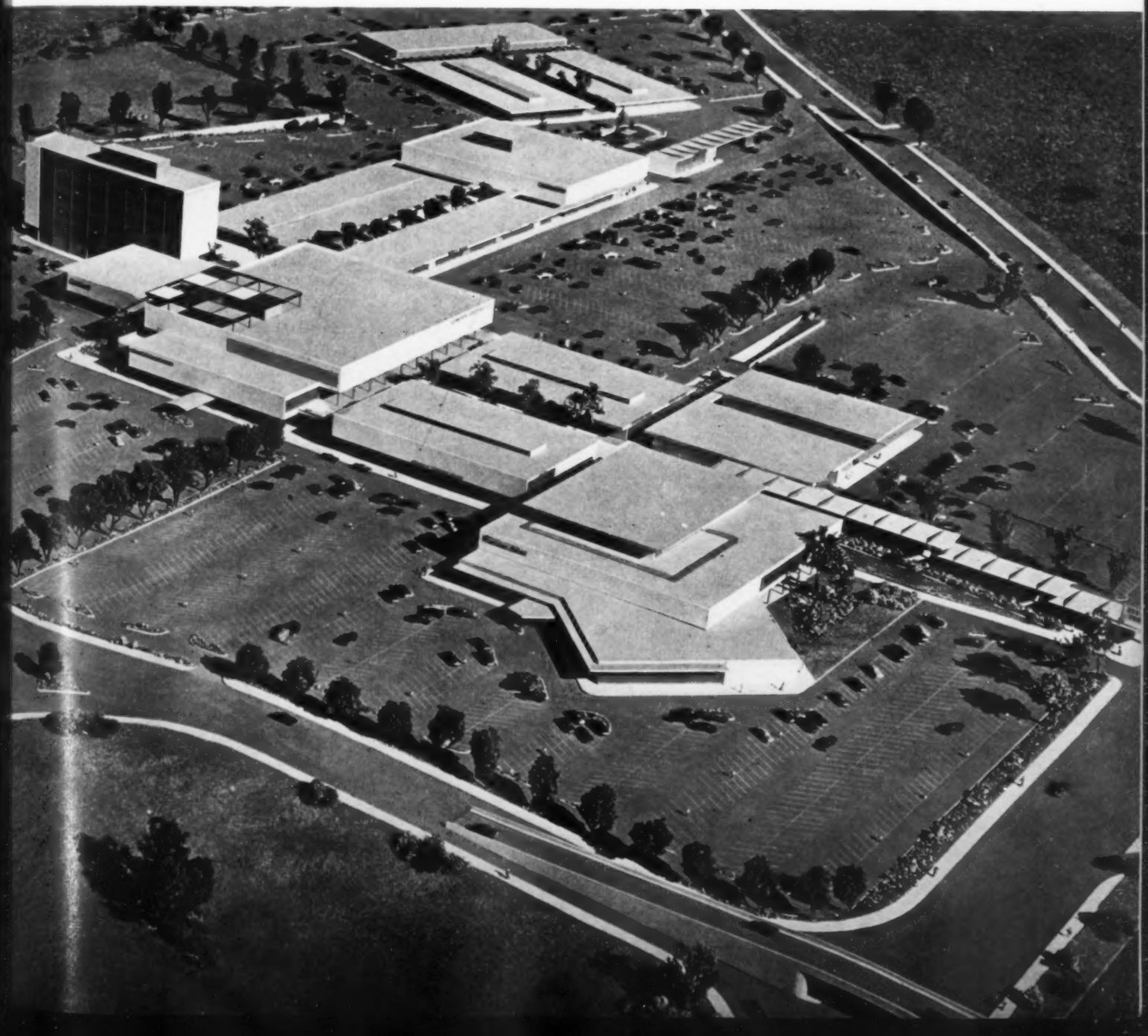
church sites should not be selected adjacent to a shopping center just to take advantage of the parking facilities. There is an overlapping in parking use. While churches may well be in the general neighborhood of the shopping center, do not make them a part of it.

theaters, due to television's influence on the economic picture, are hardly a sound tenant in a shopping center.



Above, perspective of the new Bamberger Center in Paramus, Bergen County, N. J., Abbott, Merkt & Co., Architects & Engineers. Below, perspective of River Park Regional Center, Philadelphia, Welton Becket & Associates, Architects & Engineers

Douglas M. Simmonds



ECONOMIES IN AIR CONDITIONING FOR

A general discussion of the considerations involved in selecting the best system. Lowest annual cost is frequently the deciding factor

By Francis A. Welch*, Syska & Hennessy, Consulting Engineers

IN SUBURBS throughout the country, shopping centers are springing up in large numbers, attracting customers through new concepts of merchandising. First, spacious areas are provided for easy, convenient and assured parking, and now complete air conditioning is being planned to give a comfortable, clean atmosphere.

Shopping centers vary in size from small groups of stores to the more gigantic, ambitious plants, and the air conditioning systems vary accordingly in size and type. Therefore, each shopping center with its air conditioning system has to be considered individually, and the problems can be discussed here only in a general way. The following observations, however, are based on actual case studies.

* *Project manager and assistant to chief engineer*

IS AIR CONDITIONING A NECESSITY?

Will shopping centers without air conditioning become obsolete? There are indications that they might. Take for example recent trends in modern office building design and their effect on existing buildings. Practically all of the new office buildings in New York City have complete air conditioning. Owners of older, but still excellent, office buildings are being forced to install air conditioning or face a loss of rental. It is not difficult to visualize a similar fate for shopping centers that are not comfort-cooled.

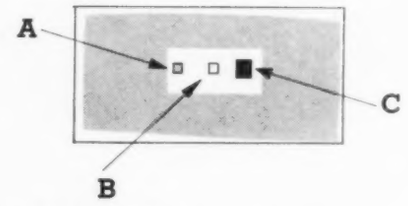
TYPES OF SHOPPING CENTERS: EFFECT ON SYSTEM DESIGN

New shopping centers are of several types. The first type consists of a group of large buildings, each containing one or perhaps a number of tenants. These buildings are connected by walkways, malls, etc.

In some cases, passageways around and between buildings are enclosed for protection against inclement weather, and while not directly conditioned, are conditioned indirectly through the exfilteration of treated air into the cov-

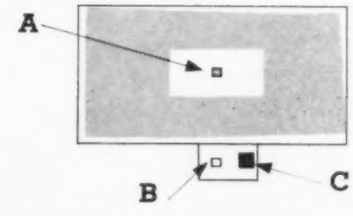
Principal Types of Systems In Order of Lowest Annual Cost

1



Single Plant — One Location

2



Split Plant — Two Locations

3

Split Plant — Several Locations

usually applies also to systems 4, 5 and 6 in table

One recent trend in shopping centers is to put all the buildings under one roof (1). Such an arrangement lends itself to a complete central air handling and refrigeration plant and an all-air, high velocity, high pressure distribution system. This gives the lowest annual cost of all. If, for esthetic reasons, the architect does not want the cooling tower and refrigeration apparatus on the roof, but in a separate plant (2) the cost is increased because of added piping. Sometimes it is not possible to group buildings closely enough to make air distribution from one source practical, and it is necessary to distribute chilled water to each building which has its own air handling plant (3)

A — Air Handling Equipment
B — Refrigeration Equipment
C — Cooling Tower

ered passageways. This idea taken a step further, suggests that the entire shopping center be enclosed under one roof and completely air conditioned. This is the second and most advanced type. Also there is a compromise between the first two types, with some of the areas between buildings enclosed and conditioned, and other areas left open to the weather.

Chilled Water Distribution

There are two types of air conditioning systems that seem to work out best for shopping centers. One system has a central refrigeration plant which distributes chilled water to strategically located air-handling equipment furnished by the owners or tenants of a number of buildings; each building generally has a central air handling plant.

All-Air Distribution

The second system has a single, centrally located plant from which cooled, conditioned air only is distributed to the completely roofed-in shopping center with its air conditioned streets, malls, gardens and plazas.

Individual Air Conditioning

Architectural requirements of many of the larger, better shopping centers preclude the use of individual air conditioning systems (both cooling equipment fans). In some of the smaller shopping centers however, it may be practical to use them. This type of system in the large shopping center has many disadvantages such as multiplicity of maintenance, loss of rental space, and higher operating costs.

CENTRAL SYSTEMS PROVE MOST ECONOMICAL

In large shopping centers, it has been found that the lowest annual cost (initial and operating) can be obtained from some form of central system. The type required would be indicated by the architectural concept of the shopping center. Thus, with a multi-building layout it is out of the question to use a central air handling plant because of expensive duct runs, and, therefore, chilled water and steam distribution from a remote plant are necessary. In the entirely enclosed type of shopping center, the single central plant has the lowest total annual cost.

FACTORS DETERMINING LOWEST ANNUAL COST

A comparison of central chilled water distribution to individual store air-handling units (fans, filters, dehumidifiers) versus a complete central station system from one point shows that, generally, and depending on the layout, the initial cost is less for the chilled water system. But more important is the fact that operating cost, especially when loss of rental space is taken into account, is higher with individual units.

Considering the disadvantages of (1)

Characteristics of Systems Indicated In Sketches

	Type of System	Equipment Required	COSTS			Flexibility	Rentable Area Required	Limitations
			Initial	Operating	Maintenance			
1	One plant, single location	central high velocity, high pressure air handling central refrigeration same location	lowest	lowest	lowest	maximum	none	not good for more than 500 equiv ft[1] duct runs
2	Split plant, several locations	central high velocity air handling one location refrigeration plant separate location	low	low	low	maximum	none	not good for more than 500 equiv ft[1] duct runs
3	Split plant, several locations	central high velocity, high pressure each building remote refrigeration plant	average	average	average	maximum	none[2]	increase in plant size increases distribution, initial and operating costs
4	Split plant, several locations	central low pressure conventional air handling each building remote refrigeration plant	average to high	average to high	average	some	none[2]	not suitable to increases in load or changes in departments or tenants
5	Split plant, multi-locations	central low pressure conventional air handling each building and/or each tenant remote refrigeration plant	average to high	average to high	average	some	none[2] and some	same as 4. Initial and operating costs higher than 4
6	Split plant, multi-locations	central refrigeration plant, distributed condenser water tenant units	high	high	high	none	yes	no advantage over distributed chilled water
7	Individual	refrigeration and air handling unit each tenant	highest	highest	highest	none	yes	not recommended

[1] 500 ft equiv means that the total friction loss in one duct run should not exceed that of 500 ft of straight duct, but this does not account for the extra loss of fittings, so duct runs naturally will total less than 500 ft in length

[2] Basement or other low-charge rental area commonly used for equipment space is considered "none" in this table

ECONOMIES IN AIR CONDITIONING FOR SHOPPING CENTERS

multiplicity of service points and servicing having to be done within the merchandising area, (2) loss of rental area, and (3) higher annual costs, the single central station system comes out ahead.

ADVANTAGES OF HIGH VELOCITY AIR

In the single central station system, the use of high velocity, high pressure air distribution has many advantages. Cooler supply air can be utilized (differential of 30 F between room and supply air temperatures) with its lower, more desirable relative humidity. This permits considerably less air to be handled for the same load, a reduction of one-third.

But to obtain the lower dew point a slightly larger refrigeration plant is required. Fan horsepowers are higher due to the higher static pressures developed. In actual operation, the high-velocity, high-pressure system provides control of air supply at diffusers through dampers, that cannot be achieved with the conventional low pressure system.

This is possible because the variation in static pressure necessary to produce the difference in volume required for the change in load is small in relation to the total static pressure of the system. The fan, and hence air-handling system, remains stable. The area covered by the high pressure diffuser is fairly uniform with not too much difference in coverage over its volume range.

In the low pressure system, the variation in the static pressure would be much larger, the fan and system performance more unstable, and the area covered by the diffuser much less uniform.

A study of initial costs shows the high velocity high pressure system to be low in comparison with all other systems, except the installation of a multiplicity of small air handling units receiving chilled water from a central plant.

An actual cost breakdown shows the following:

1. Sheet metal costs per unit length are the same for the high velocity, high pressure system and the conventional low pressure system. High pressure ducts, although smaller, must be sturdier and leak-proof.

2. High velocity, high pressure diffusers with their sound boxes, baffles and controls are higher in cost than in the conventional low pressure outlets.

3. Due to the much smaller air volume handled, the high velocity, high pressure air handling apparatus cost will be less than for a conventional system due to the reduction in air volume (about one-third less) even though a more rugged fan and larger motor are required. Actual operating costs tend to be higher mainly due to the larger electric motors required to maintain the high static pressure in this type of system. However, considering all this, the single station high velocity, high pressure system will show the lowest total annual cost.

Reason: Mainly, no loss of rental can be charged against this system since all air conditioning apparatus can be located in one spot.

Advantages: 1. A flexible, modular system can be designed to meet varying loads and shifting department demands without any alterations in equipment. To accomplish this, the system is oversized. Thus, should any part of the system be taxed with a load greater than design load (because of a department being added, an increase of heating load due to more lighting, etc.) the automatic controls can draw on the surplus available. (*A big advantage to the tenant and owner.*)

2. Equipment location keeps maintenance separate from merchandising, and in a single location. (*A big advantage for servicing.*)

3. Small size duct work in furred ceilings. (*A big advantage for the architect if space is at a premium.*)

However, if cutting down the size of ducts is not essential, then it would pay to balance the savings in space that is possible through use of small, high velocity, high pressure ducts against the greater cost for fan motors — which are larger than required in conventional systems — and the additional power to run them.

To shave down costs, a system might be designed with the largest size ducts consistent with good engineering that would fit the space available, with static pressure just high enough for the operation of high pressure diffusers. This system would have a fair amount of flexibility, permitting air quantities to be adjusted at the diffusers to meet changing operating conditions. But at the same time less expensive fans and fan motors could be employed because the static pressure would be lower than for the usual high velocity systems. Operating cost would come down too.

Barber-Colman Co.

Sidewall diffuser with double-deflecting vanes has an air valve behind it to reduce high velocity air to normal flow

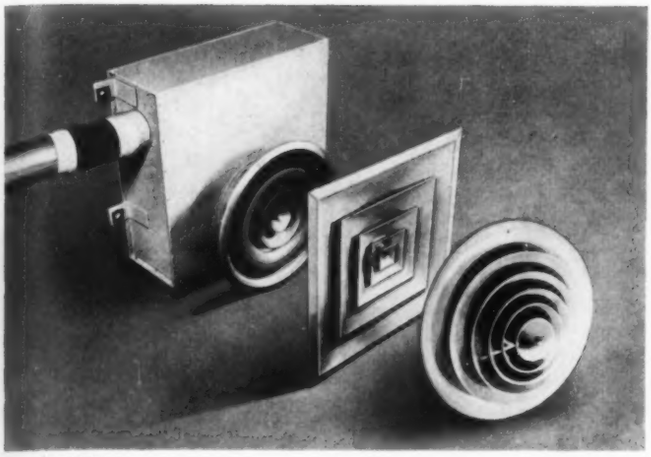
ADVANTAGES OF CENTRAL REFRIGERATION

No matter what type of system is used, it can be seen that in all instances, the central refrigeration plant offers economies. There are many reasons for this. Initial costs are lower. A comparison of the cost of cooling with individual air conditioners versus a single station system per ton of refrigeration has shown that the central plant of average design has a lower capital cost. A central plant of excellent design will show an even much lower capital cost.

PROBLEM OF BILLING TENANTS

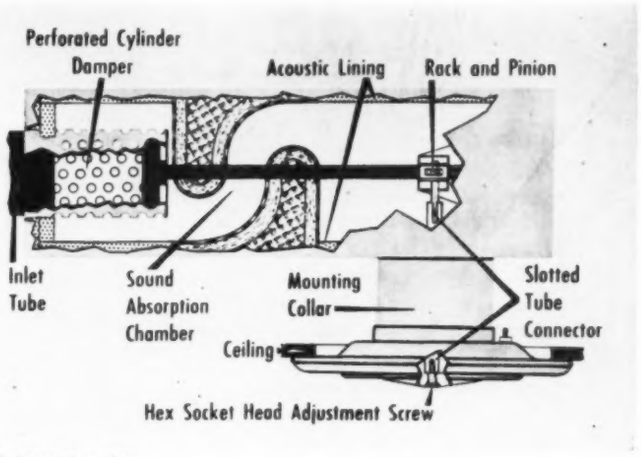
Charging a tenant for cooling is a real problem. The most accurate and indisputable method is by therm meters. A therm meter measures and records the flow rate of chilled water and the temperature difference between supply and return in therms (therm = 100,000 Btu). This is an expensive means of

Typical Diffusers for High Velocity Systems in Shopping Centers



Anemostat

High velocity aspirating diffusers for both average and special conditions (use of cooler than normal air, for example). Square box at left is reducing valve and sound attenuator



W. B. Connor Engr. Corp.

Cross section of another system. Air at high velocity and pressure is "braked" through a perforated cylinder and passes through acoustic chamber; piston regulates volume

metering and is not often used for that reason. A rental charge on a square foot basis over and above the usual rental charge is often resorted to. This also has its disadvantages. Tenant claims of unfairness due to differences in the amounts of cooling required for equal areas are common. However, equitable charges on a rental basis can be worked out, and since this is so much less expensive than the use of therm meters, it is the most popular method at the present time.

Charges to the tenant, including his proper share of the annual capitalization cost and operating cost, average approximately 50 cents per square foot of rental area, per year. Installation or capital costs range from between $2 and $3 or more per square foot of rental area depending upon the architectural concept of the shopping center.

COLLABORATION BETWEEN ARCHITECT AND ENGINEER

The architect can help the engineer in keeping duct runs, steam lines, chilled water lines, and condenser water lines as short as the esthetic values of the shopping center will permit, and by giving considerable thought to the location of apparatus rooms. If possible they should be placed on roofs, but if they must be within the building, the lowest-value rental area should be chosen.

Another item of major importance is an accurate appraisal in the early planning stage of the amount of lighting needed because this is the largest single item of the cooling load and any variation can influence considerably system size, and therefore initial and operating costs.

Special attention should be given to the amount of storage area because of its very low illumination level. In calculating the amount of cooling load attributable to lighting, wattage per square foot should not be considered the same for merchandising and storage areas. Such an assumption would cause the cooling load to be overestimated and air conditioning oversized.

The engineer can contribute toward lower operating cost by making a study of the best drive for the refrigeration compressors and selecting cheapest power: (1) electricity, (2) steam from coal, oil or gas, or (3) steam through a combination of turbine and absorption units in series. In many cases the engineer can carefully evaluate the use of a high-velocity, high-pressure system. Here a word of caution. Fan motor horsepower requirements are high. This has a very important effect on refrigeration load since an increase in air volume is required due to the high sensible heat added to the cooling air by the fan motors. The author suggests that a careful study be made to determine a balance in design that would give the minimum fan horsepower and minimum refrigeration load consistent with minimum duct size. This study should include the most efficient air handling fans on the market. Apparatus rooms located in non-rentable areas and in such way as to minimize duct runs should be included in this study to determine lowest operating cost.

The trend in design of large shopping centers seems to be toward precluding any individual tenant-installed air conditioning plants. Instead, the tenant is influenced to go along with the owner's air handling plant, obtaining chilled water from a central station, or to ride along as part of the complete central station refrigeration and air handling system. There are many reasons for this. Esthetics dictate a harmonious architectural design. This rules out unsightly individual tenant condenser water systems. A central condenser water system would comply with this requirement, but cost-wise, a central chilled water system is much more desirable.

Standards of air conditioning performance must be controlled throughout the shopping center. This is important because the customer has access to all selling areas, and naturally uniformity is desirable. The heavy investment necessary in the construction of a large plant such as a shopping center should be protected by creating and maintaining high standards.

EMPLOYE CAFETERIAS

How to Plan for Seating and Service Requirements

By Arthur W. Dana, Restaurant Consultant

EMPLOYE food services, whether for office, industrial or department store workers, have usually justified their original installation in a number of ways. Among other things, such services help boost workers' morale by providing increased convenience and accessibility, reducing congestion during lunch periods, and making it unnecessary for them to leave the premises for lunch.

Now the trend among business and commercial organizations to relocate their headquarters in suburban areas has made the provision of employe food services a necessity for companies which formerly, perhaps, did not have to be concerned with such matters. In suburban locations, where normal facilities are fewer and more widely dispersed than in urban areas, the factors cited above become increasingly important.

Effective and efficient layouts of employe food services, as outlined in this article, will require much preliminary discussion with the client as to objectives and policies that affect the proposed food service and the accompanying employe morale goals. This article will review the basic elements in planning such installations, and will summarize special requirements for suburban commercial or business organizations. While these requirements are, on the whole, identical to those for employe facilities in urban installations, there are a few new elements which suburban relocation introduces. These will be suggested below.

SEATING REQUIREMENTS

The determination of cafeteria seating requirements by the architect depends upon several considerations relative to the size of the organization, company policy and physical limitations. For example, company policy as to the exact use of facilities by employes (price of the food, restrictions against eating elsewhere, or absence of such restrictions) helps determine the ratio of the total number of employes who can be expected to use the facilities. The proportion which will use the facilities at any one time is determined by such factors as (1) the number of "staggered" shifts which are provided; (2) the intervals between the start of each of these and the extent of their overlapping (by reason of seat occupancy time); (3) the length of the lunch period (each shift); and (4) the speed and efficiency of counter services. Determination of seating capacity which must be provided affects the total space requirements of the installation, both for the seats and tables themselves, aisle space, adequate counter facilities and space, and sufficient kitchen space.

Ratio of Patronage

Where companies furnish meals to their employes at a nominally low (flat) price, a 90 to 95 per cent patronage ratio may be expected. Where employes must pay higher prices for the food, but are not permitted to eat elsewhere but in the company-provided facilities, seating for 90 to 95 per cent must be provided, although 20 to 25 per cent of these will probably bring their own lunches, supplementing them only with beverage and sometimes dessert from the counter. When no restrictions are placed on the employes in this respect, but the prices are not exceptionally lower than elsewhere, a range of 50 to 75 per cent patronage can be expected. This depends, however, on the length of the meal period, the existence or absence of long waiting lines, quality and price or value of the food, attractiveness of the facilities and the comfort of the seating. Remoteness of the store or offices from public restaurants and parking difficulties near public restaurants are other factors which can lower or raise the patronage ratio.

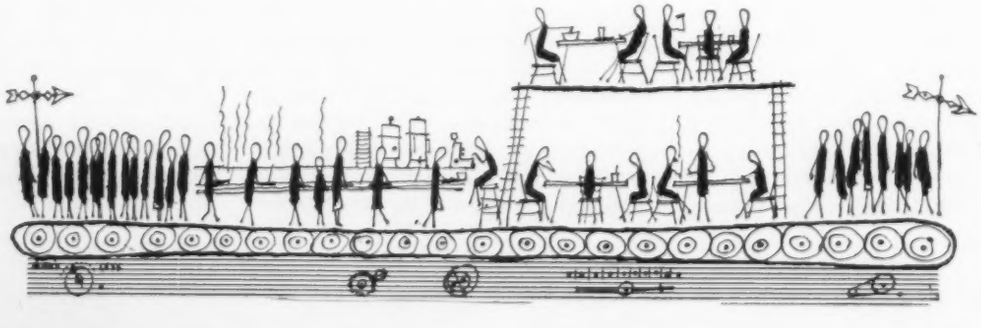
Staggered Meal Periods and Effective Serving Times

The trend toward shorter luncheon periods appears to become stronger where employe food services are installed, with the minimum period frequently being 30 minutes, or in some instances 45 minutes. In a 30 minute period, the maximum available or effective time for serving patrons is within the first 7 to 8 minutes, leaving approximately 20 minutes for dining, etc. In the case of 60 minute periods the effective serving time is within the first 12 to 15 minutes. Wherever problems of management and interrelationship of departmental functions do not cause excessive complications, it is desirable to stagger employes' meal periods, preferably on a 10 minute minimum headway. Some companies are able to stagger periods on a 5 minute basis, but this may lead to excessive overlapping, because of delays in the use of washroom facilities and in traveling to and from the cafeteria.

The whole cycle may start at 11 A.M. or 11:30 A.M. and last until 1 P.M., providing as many as nine to twelve 10 minute periods. Department store employes are frequently served luncheon as late as 2:30 to 3 P.M. In very small operations serving 100 to 150 persons, a 10 to 15 minute break between each two shift periods may be of value. This will permit the cafeteria operator to replenish, clean up and prepare for the next group. In larger operations, this break may be unnecessary, especially if the patrons buss their own soiled dishes (see below).

Elapsed Time of Seat Occupancy

In a 30 minute lunch period, the minimum time of seat occupancy is 12–13 minutes. Maximum for such a period would be 20 minutes, and this figure is allowable for part of the computation process. In longer periods, most office



Drawing by Don Ervin

Joseph W. Molitor

In a later issue ARCHITECTURAL ENGINEERING will feature as a supplement to this article a graphical method for determining the number of seats required in an employe cafeteria on the basis of a number of variable conditions. This will furnish a shorthand method for figuring requirements

workers prefer to leave their tables after about 20 minutes to stretch and walk about. Department store workers, however, many of whom stand during much of their working day, are likely to remain seated for longer periods, unless other adequate lounge facilities are located nearby.

In a 45 minute luncheon period, the range of maximum seat occupancy is likely to be from 20 to 30 minutes, while in a 60 minute period, the range may be from 20 to 45 minutes.

Seating Requirements and Counter Speed

Suburban employe food services, particularly because of their usual location fairly far from public eating places, need to have effective counter speeds for optimum efficiency. Conventional cafeteria counters from 20 to 30 ft long have "speeds" of from 5 (sometimes less) to 6 persons a minute. This may be increased to a more satisfactory 7 or 8 a minute by introducing several modifications. "Free-flow" counters such as described below can accommodate from 10 to 30 per minute or more.

Additional Seating Functions

Planning of the cafeteria area is sometimes affected by the need to provide for seating functions other than the normal ones. The inclusion of private or executive dining areas is dependent upon management policy. Where there has been no previous food service, it is well to caution the client about certain "human relations hazards" in limiting the use of such areas. On the other hand, if the dining area has some flexibility, or if sufficient space is available, a small private dining area may be useful for entertaining special guests, officials and the like at conference luncheons.

Similarly, requirements for occasional banquets or multiple use for departmental meetings may affect table arrangement or layout of the room. Public and community relations of the company in a suburban locale may also influence this phase if the area should be made available to civic groups at any time. Additional lounge facilities are usually desirable only where 45 to 60 minute luncheon periods exist, or where mid-morning or afternoon rest periods are customary.

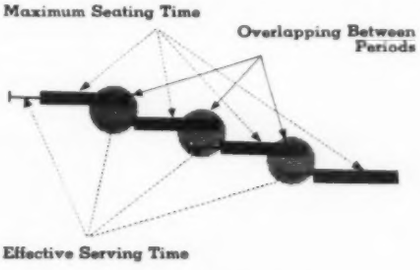
SERVICE REQUIREMENTS

In planning for maximum efficiency and comfort in company cafeterias, the architect must be cognizant of a great many factors, including details of the actual management of the installation. Preliminary decisions on such matters can directly affect layout and spatial requirements. The manner in which foods are displayed and served, location of various categories of foods in relation to each other, decisions concerning the employment of pre-packaged sandwiches, etc., decisions as to whether or not patrons will be required to carry their own soiled dishes to service windows — all these have direct bearing on the size and nature of the facilities the architect must design.

Free-Flow Counters

Perhaps the most important of these considerations are the arrangement and location of serving counters. Frustrating delays in waiting lines at counters are an important factor in reducing both patronage ratios and employe morale benefits. The conventional counter is a series of cumulative bottlenecks — hot food serving station, made-to-order-sandwich station, drinking water, condiments, coffee service, cashier station. These impede traffic flow and slow the line. When desserts are displayed above salads, for example, this arrangement can slow traffic. Serving speed can be increased, however, from 5 or 6 per minute to 7 or 8 per minute per cafeteria line by such devices as placing the hot food counter first in line, using ready-wrapped sandwiches, locating water and condiments at a stand in the dining area, and placing the cashier's stand about 12 ft from the coffee station, which should itself be last in the line. Since usually only ⅓ to ½ of the patrons will take coffee at noon, it is desirable to let those who prefer milk or iced tea by-pass this station.

Still greater increases in serving speed can be made by substituting a "free-flow" counter, such as that shown in Fig. 1, for the conventional serving counter. This arrangement permits those who wish cold food to by-pass queues at hot food or sandwich stations. Similarly, those who do not wish desserts can by-pass this station (only 65 to 75 per cent of the patrons usually buy desserts).



To expedite such by-passing, a traffic aisle 6 to 10 ft wide has to be provided. The free-flow counter with remote cashier stations can have a speed of 10, 20, 30 or more per minute, depending on the number of hot food stations provided and the linear display of quick-pick-up foods. Lengths of such counters may range from 40 to 70 ft or more. Advantages of the free-flow system include elimination of duplications in counter equipment (as in multiple counter lines) and reduction of the service staff. In actual practice no cross-traffic problems have been encountered in by-passing,

(Continued on page 208)

if the counter is properly designed. The free-flow counter depends for its success, however, on a fairly even flow of patrons into the cafeteria and a probable patronage distribution of *at least* 25 per cent for salads and ready-wrapped sandwiches. Separate snack bars or cold food lines are economically justified only in larger food service installations, but these can be incorporated in the free-flow design without duplication of dessert, beverage and cashiering facilities.

Besides the arrangement of the serving counters themselves, an important element in potential service delays is replenishment of foods at the counters, particularly at the hot food station. To reduce delays from this cause, it is desirable to plan pass-through facilities from the kitchen to storage cabinets for both hot and cold foods. Wherever possible, these should be designed so that there is a minimum number of steps from the hot food production facilities to the reserve warmer.

The location of the serving counters should afford some space for a waiting line-up. Screening or partially concealing both the serving counter and the line-up space from the view of the diners is sometimes done.

Still another factor which affects the architect's planning is the method by which soiled dishes are bussed. The increasing practice in employe cafeterias is for patrons to carry their own trays of soiled dishes to a pass-through window, conveyor belt or shelf. This procedure has the advantage of freeing tables and seats as soon as the patron arises, thus reducing somewhat the total number required. The procedure also encourages diners to keep their plates on the trays while they eat, and this habit, in turn, makes the use of rectangular rather than square tables desirable, so that the trays (usually 18 by 14 in.) will fit on a table 30 in. wide and with a length of 2 ft per seat on each linear side. Other advantages to having patrons buss their own dishes are decreased labor costs (one bussing employe is needed for each 50 to 60 seats), decreased breakage of china and glassware, and elimination of scraping and stacking of dishes in trucks located in and around the dining area.

The Menu Pattern

The menu pattern, the approximate portion sizes to be served, and estimates of distribution of sales between salads, sandwiches and hot foods, are factors which the food service equipment specialist or consultant must transpose into equipment sizes or capacities and numbers of equipment items. The ratio of men and women patrons, and a considerable ratio of older people who must watch their diets, are among the factors that will influence the estimates of proportionate facilities for hot foods versus salads and sandwiches. The menu pattern that is limited to one, two or three hot plates will affect the maximum loads on roasting, frying, kettle or range top equipment.

To the extent that the menu pattern avoids an excessive variety on any one day, the economic subsidy or burden inherent in employe feeding will be lessened and the quality of the food will be improved by faster turnover and opportunity for better supervision of preparation.

SPECIAL SUBURBAN PROBLEMS

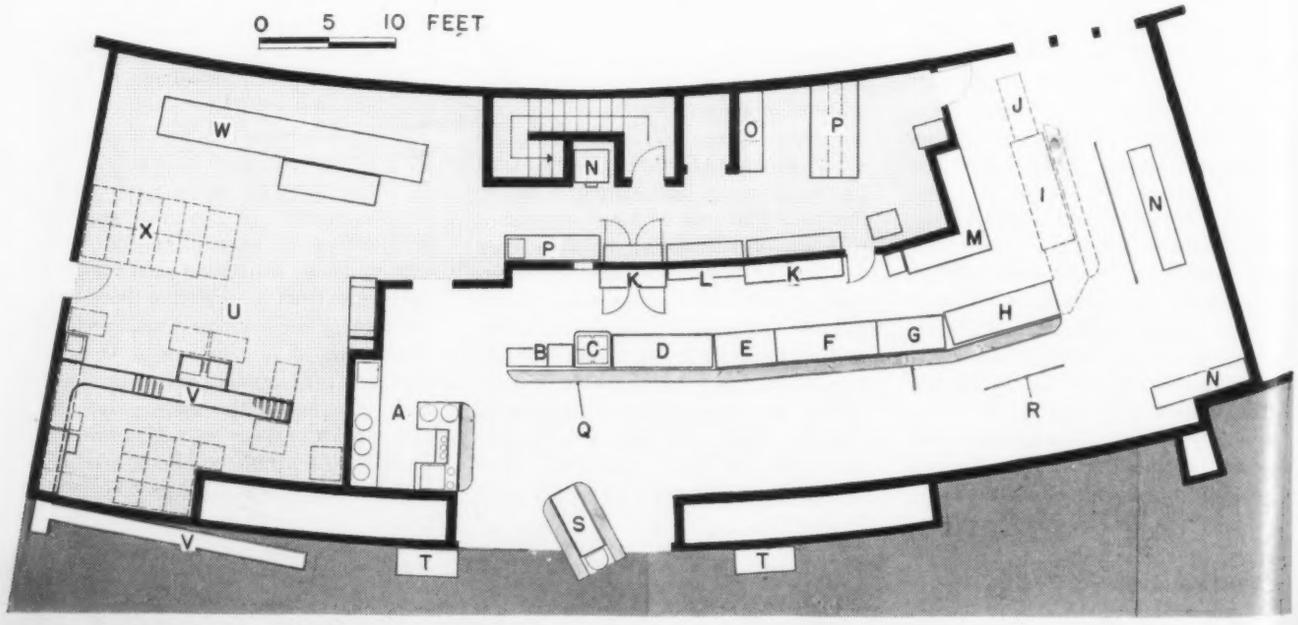
Suburban locations may reduce the frequency of deliveries of meats and produce from a daily basis to two or three times a week and thus require slightly larger storage refrigeration and freezer space. Other perishables are usually on a daily basis. In suburban department stores the frequency of night operation is often greater than in the city, hence, the necessity to provide for two meals a day will increase refrigeration needs.

If the cafeteria is located near urban centers, meats may be made ready for cooking by the dealers, thus limiting the butchering or meat-cutting equipment which has to be provided for kitchen areas. Suburban department stores may require additional baking equipment, because of night operations, but would need very little more kitchen capacity; baked goods can be prepared in the morning for service at night, whereas most kitchen preparation would be freshly made for the evening meal.

Similarly, baking of pies and cakes may not be done, in favor of purchased products. However, it is safer to allow space for possible future baking, including that of rolls or biscuits. Bread is almost always purchased.

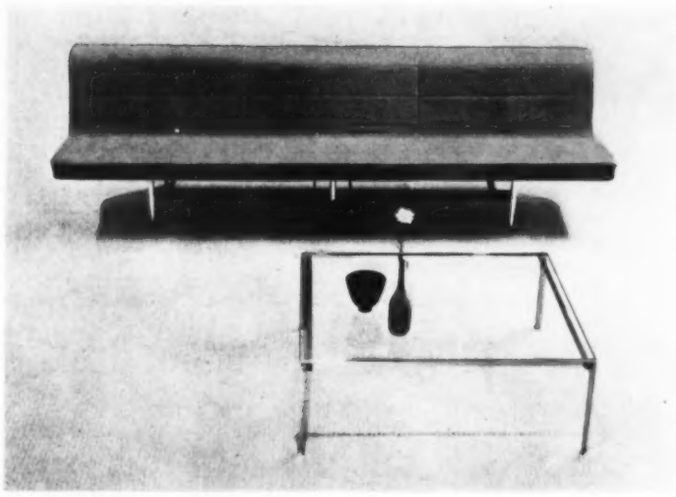
FIG. 1
Free-Flow Serving Counter

A — HOT BEVERAGES
B — MILK
C — ICE CREAM
D — DESSERTS
E — SANDWICHES & SOUP
F — SALAD
G — BREAD
H — HOT FOOD
I — FUTURE HOT FOOD COUNTER
J — FUTURE TRAY & SILVER STAND
K — PASS-THROUGH REFRIGERATOR
L — PASS-THROUGH CABINET
M — PASS-THROUGH WARMER
N — TRAY & SILVER STAND
O — SINK
P — WORK TABLE
Q — TRAY SLIDE
R — GUIDE RAIL
S — CASHIER
T — WATER & CONDIMENTS
U — DISHWASHING AREA
V — CONVEYOR
W — DISH MACHINE
X — DISH TRUCKS



PRODUCTS CHOSEN FOR 1953 GOOD DESIGN EXHIBITION

A



B

A Foam sofa and glass-topped coffee table both feature chrome legs

B Portable steel fireplace has grey-black finish, glass-fiber insulation

C Walnut framed easy chair and ottoman covered with handprinted linen

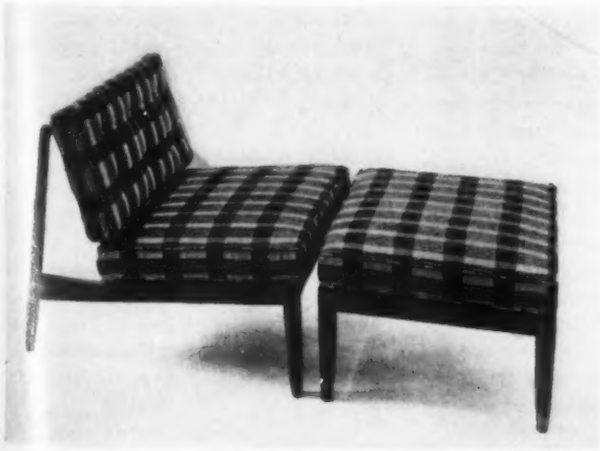
D White Carrara marble dining table on brass plated steel legs, leather sling, three leg chairs

Shown on this page are a few of the items which have been chosen for the 1953 "Good Design" exhibition, sponsored jointly by the Museum of Modern Art in New York and the Merchandise Mart in Chicago. Included are, top to bottom, a foam rubber sofa with chromed legs and black enamel stretcher, and a coffee table with chrome base and plate glass top — both designed by Katavolos, Littell and Kelley of Laverne, Inc. (160 E. 57th St., New York, N. Y.); model "A" portable steel fireplace with glass fiber insulation — designed by George Kosmak for Kosmak Fireplaces (45 Castel St., San Francisco 11, Calif.); easy chair and ottoman with walnut frames and handprinted linen covering — designed by Folke Ohlsson for Dux Co. and distributed by George Tanier (521 Madison Ave., New York, N. Y.); dining table of white Carrara marble on brass plated steel legs, dining chairs with three chromed legs, black enamel stretchers and leather slings — Designed by Katavolos, Littell and Kelley of Laverne, Inc.

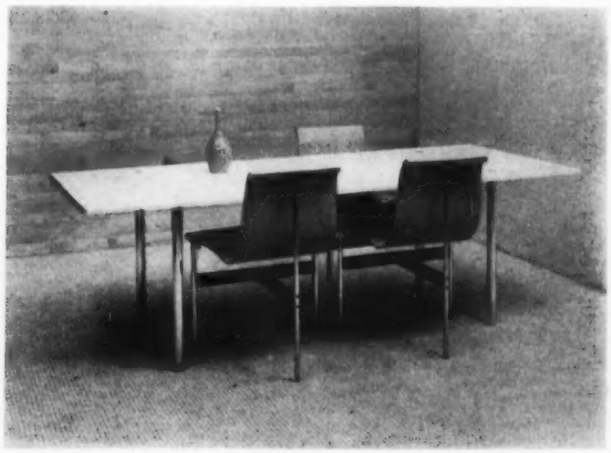
Exhibited during the summer furniture market at the Merchandise Mart, all of the illustrated items except the sofa will be on display at the Museum of Modern Art during October and November. Other items to be exhibited will include floor coverings, various types of fabrics, lamps, accessories, tableware, household appliances and many other miscellaneous products.

(Continued on page 220)

C



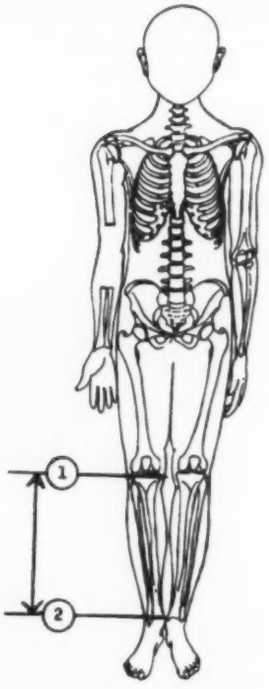
D



BODY MEASUREMENTS OF SCHOOL AGE CHILDREN

Basic Body Measurements of School Age Children. Prepared as a ready reference handbook for use by architects, school officials, design engineers, and others who need information on the basic body measurements of school age children, this book contains information on the means, the variability, and the range of 53 different body measurements for boys and for girls, for each age from 4 to 17 years. The measurements include the following: heights of different parts of the body from the floor, in standing and sitting positions; lengths of different segments of the trunk; lengths of the limbs and their component parts; depths, breadths, and diameters of different parts of the body as well as their arcs, girths, and circumferences. The measurements were selected on the basis of the responses to a questionnaire which was sent to architects, manufacturers, school business officials, specialists in school plant planning, and selected school officials and teachers. Only those measurements are included which are needed in building, furnishing, and equipping more functional school buildings for the youth of the nation.

The measurements taken alone, or in combination with others, can be used for computing the space requirements of children in carrying on the common learning tasks of the classroom and playgrounds; in planning school buildings and the facilities and services which go into them; and in designing, selecting, and purchasing the furniture and equipment which are needed for the different activities of children in the different grades. Single copies obtainable from the School Housing Section, Office of Education, U. S. Dept. of Health, Education and Welfare, Washington 25, D. C.



Right: Illustration from new government booklet shows frame proportions of a school age child

DISHWASHERS FOR PUBLIC EATING PLACES

NSF Standard No. 3, Spray-Type Dishwashing Machines. Booklet prepared by the Joint Committee on Food-Equipment Standards contains the National Sanitation Foundation Sanitary Standard for the construction of spray-type dishwashing machines, with recommendations covering installation. Complete information is included for various parts of the machines, such as water inlets, valves, temperature control, thermometers, pumps, etc. Wash and rinse cycles are discussed, and maintenance directions given, with suggested check list for sanitarians, applicable to spray-type machines. 46 pp., illus. The National Sanitation Foundation, University of Michigan School of Public Health, Ann Arbor, Mich.

CLAY TILE INSTALLATION

ATCO Adhesives — Specifications and General Instructions for Thin-Setting of Real Clay Tile. Booklet describes adhesives and other products and gives suitable base surfaces for the "thin-set" method of applying clay tile. General information includes proper storage temperatures, how to prevent damage from fire, and suggested solvents, thinners and tools. Thin-set methods of clay tile include base surfaces to receive tile, plastered partitions, layouts, leveling uneven surfaces, caulking, waterproofing, area to be tiled in one operation, and how to determine which method to use — a floating or a buttering method. Special instructions for shower stall construction, ceilings, bathroom accessories, grouting and finishing, and final cleaning are also given. A short form specification for architects is provided. 10 pp., illus. ATCO Tile Sales Co., 101 Park Ave., New York 17, N. Y.

HIGH VELOCITY AIR CONDITIONING

Anemostat Units for High Velocity Air Conditioning Systems. Bulletin (HV Manual 48) contains engineering data on the selection, layout and installation of the manufacturer's units for high velocity air conditioning systems. Data is designed to help consulting engineers design high velocity air conditioning systems, and in combination with standard tables in the ASHVE Guide, it permits conversion of low velocity designs to high velocity. Useful tips on duct design, sizing of ducts, types of systems and balancing of units and information on how metal and space savings can be achieved are given. Anemostat Corp. of America, 16 E. 39th St., N. Y. 16.

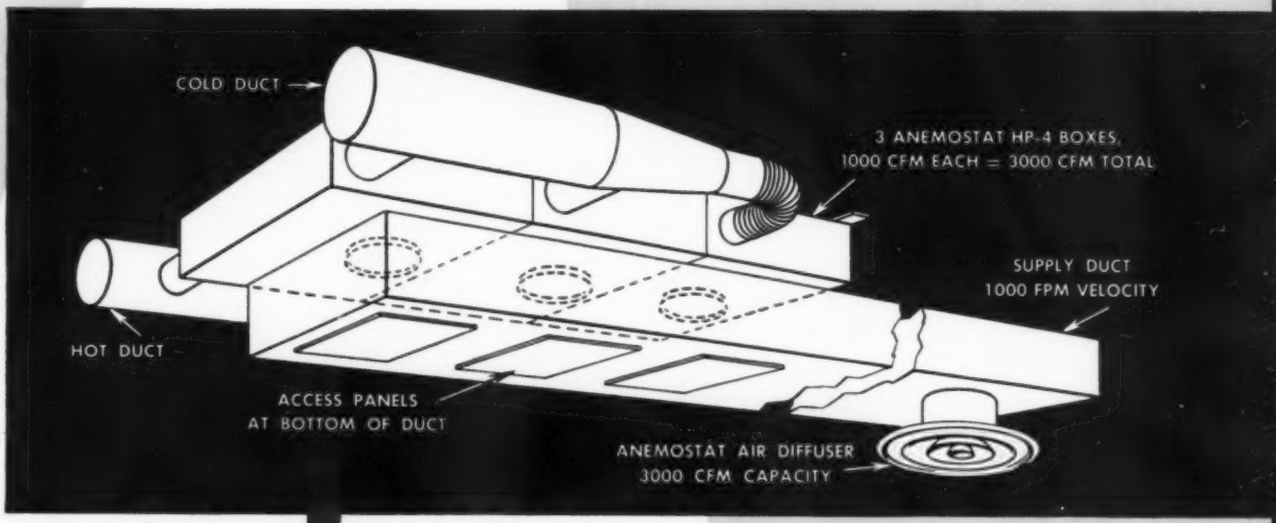
INDUSTRIAL FLOORING

Plastic Pellets. Booklet explains advantages of plastic pellets in an asphalt-rock mixture for industrial flooring. Use in two types of flooring materials — "Immediate Set" and "Liggite" — is described, and characteristics of each type are cited. 8 pp., illus., Flash-Stone Co., Inc., 3723 Pulaski Ave., Philadelphia 40, Pa.

(Continued on page 271)

Other product information in Sweet's Architectural file, 1953

High Velocity with Unlimited Capacity



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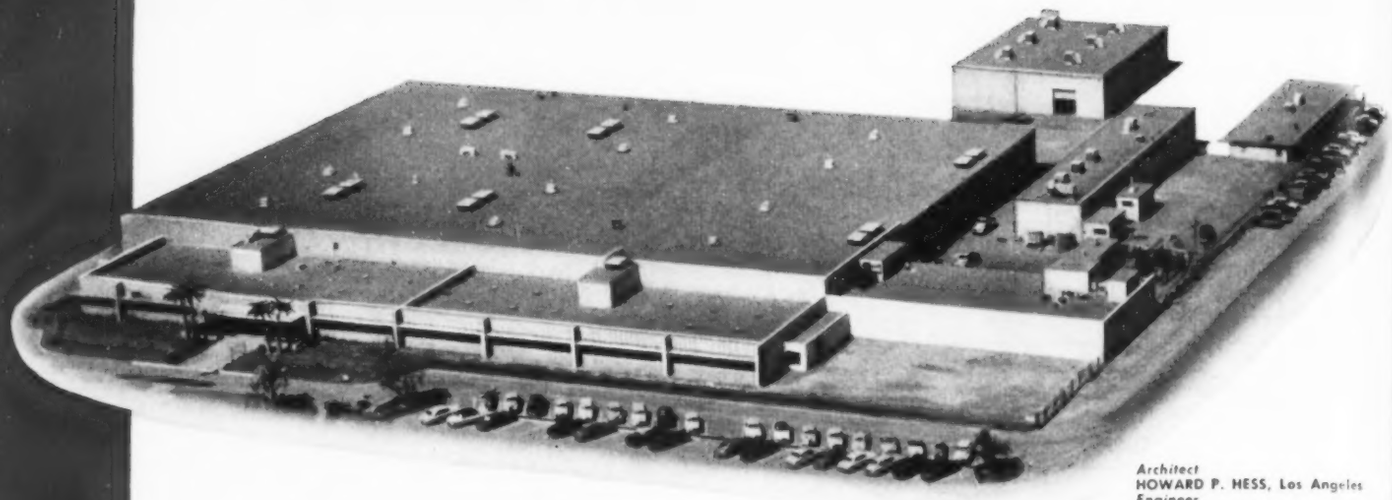

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HOWARD P. HESS, Los Angeles
Engineer
DONALD DOUGLAS, Los Angeles
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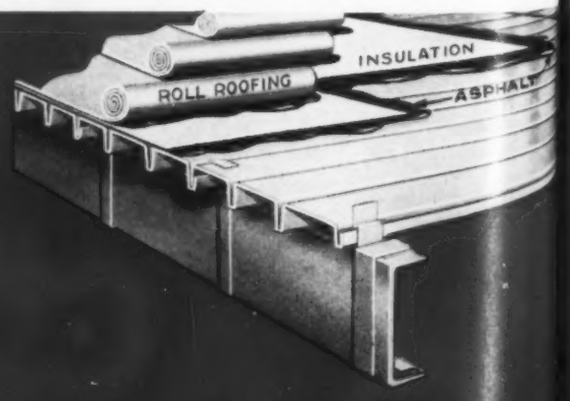
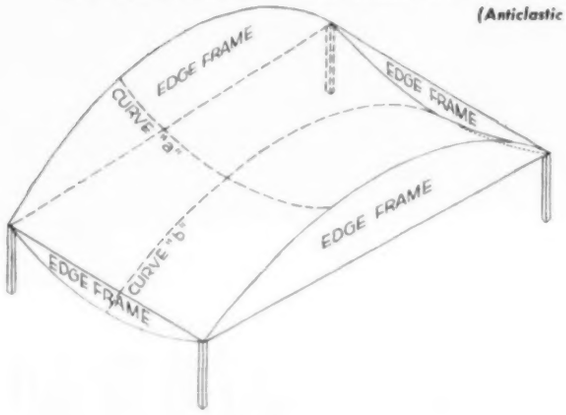


STRUCTURAL FORMS—25: THIN SHELLS OF REINFORCED CONCRETE

By Seymour Howard, Architect, Instructor at Pratt Institute

B-3 ONE GROUP OF CENTERS OF CURVATURE BELOW THE SHELL AND ONE GROUP OF CENTERS OF CURVATURE ABOVE THE SHELL.

(Anticlastic or saddle shaped surfaces also known as skew or ruled surfaces)



General Case

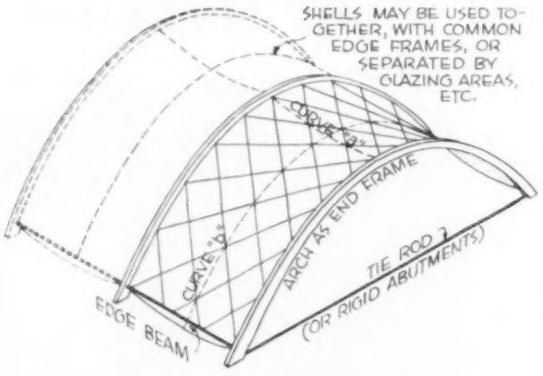
See Sheet 22

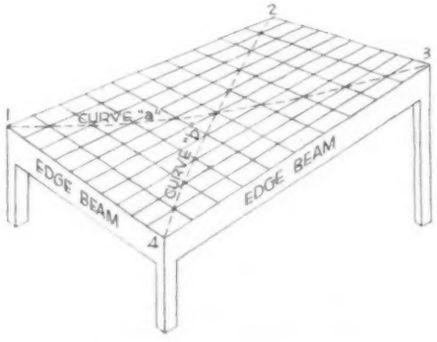
The difference between this type and B-1 & B-2 is that the centers of curvature of curve "a" are on the opposite side of the shell from the centers of curvature of curve "b"

This type of shell derives greater stiffness from its shape alone than any other type.

In practice this form is used as either a hyperbolic paraboloid or as a conoid. (Hyperboloids of one sheet also have been used)

B-3-a HYPERBOLIC PARABOLOIDS





In a true hyperbolic paraboloid surface, both curves "a" and "b" are parabolas, while the traces of horizontal planes intersecting the surface are hyperbolas. In practice curve "b" may be any suitable curve. The surface is generated by connecting successive points on the two arches by straight lines, which lie in parallel planes. The fact that the warped surface is created from straight lines makes formwork relatively simple. The arches can be built first and straight beams hung on them to support the form boarding

STRAIGHT EDGED FORM

If one corner of a rectangle in plan is raised above the other three and straight lines lying in parallel planes are drawn connecting each pair of opposite sides, a hyperbolic paraboloid surface will be generated.

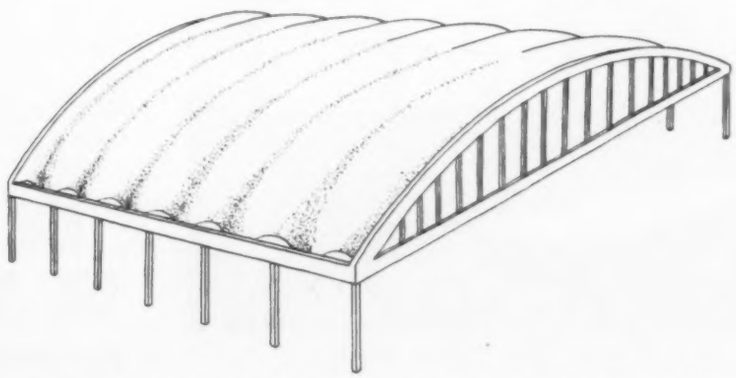
Corner 3 is higher than 1, 2 & 4; edges 1–2 and 3–4 are divided into equal spaces and the points are connected; similarly edges 1–4 and 2–3.

Corner 3 might also be located below instead of above the other three

Example of anticlastic and synclastic shells used together to form continuous corrugated surface

A shell of this type has been built of 330 ft span, 40 ft rise, spacing of corrugations (crest to crest) 32 ft, depth of corrugation 7 ft, shell thickness 2⅜ in.

(Marignane Airport, Marseilles, 1952)



Ottumwa, Iowa, Hospital, built 1952. Architect: Morgan-Gelatt & Associates, Burlington, Iowa. Consulting Engineers: Beling Engineering Co. General Contractor: Ringland, Johnson, Inc., Des Moines, Iowa. Mechanical Contractor: Mechanical Constructors, Inc., Moline, Ill.

WALL-to-WALL WARMTH

For New 133-Bed Iowa Hospital

New Ottumwa Hospital, 28th hospital design completed by Architect Dane D. Morgan of Morgan-Gelatt & Associates, has wall-to-wall warmth assured by Tru-Perimeter hot water heating using Webster Walvector.

The new 133-bed Ottumwa, Iowa, Hospital, a community project built on a 40-acre tract, replaces a hospital group which for 60 years had struggled with space problems. The new hospital has 95,287 sq. ft. of floor space, 716 sq. ft. per bed, and was built at a cost of $14.88 per sq. ft. or $12,789.51 per bed. It has a maximum bed capacity of 175. Total cost of building and equipment was $1,800,000.

Beling Engineering Co., Consulting Engineers, recognized the need for wall-to-wall warmth in every room. As a result, patients and personnel enjoy the comfort of a zone-controlled hot water system with "Tru-Perimeter" Heating by Webster Walvector. Water is heated by steam converters in penthouse.

Webster Walvector heats all exposed walls, gives gentle, even warmth. No cold spots, hot spots or drafts. Heating element and piping are concealed in attractive metal enclosures. Piping is simplified, fewer risers needed.

Where space is limited, as in this sterilizer room, Webster Walvector conserves floor space. Assures comfortable warmth, but is never in the way. Sterilizer is equipped with special Webster Process Steam Trap for fast heating-up . . . standard on all leading sterilizers.

Operating Room. Webster Walvector offsets heat loss from large glass exposures here and in nursery and obstetric suite.

Whether you are considering new construction or modernization, investigate the advantages of Webster Walvector. For complete information, call the Webster Representative near you, or write us.

Address Dept. AR-10

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Webster WALVECTOR

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For Steam or Hot Water Heating

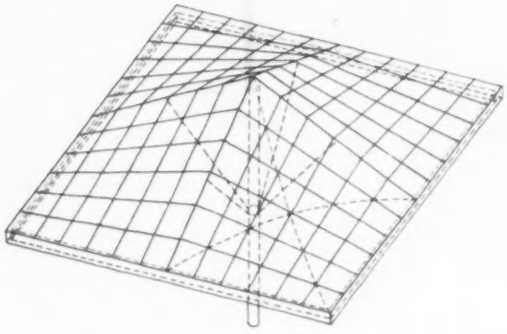
STRUCTURAL FORMS—26: THIN SHELLS OF REINFORCED CONCRETE

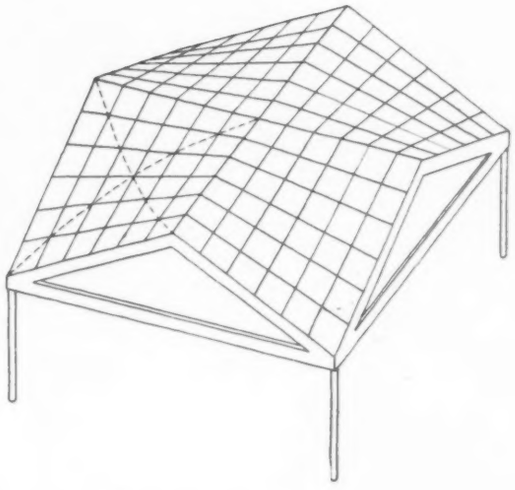
By Seymour Howard, Architect, Instructor at Pratt Institute

B-3-a HYPERBOLIC PARABOLOIDS *(Continued)*

Combinations of straight edged form

NOTE: In addition to edge stiffeners, beams or thickenings of the slab are required along lines of gables or abrupt changes (knuckles) in the surface of the shell





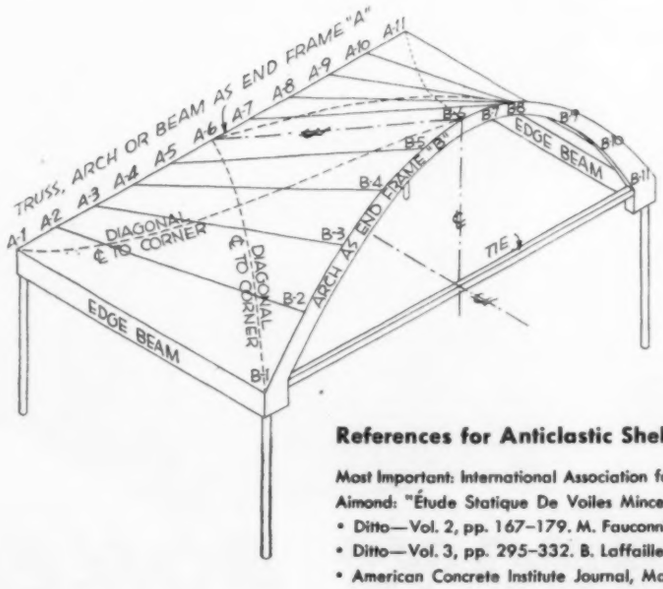
The Umbrella Form

Made by combining four hyperbolic paraboloid surfaces, each one having three low corners and one high corner. Diagonal struts may be required from column to ridges to take eccentric loading. This type would require column to be cantilevered up from wide footing if used alone. Stability can be achieved more easily by using minimum of four

The Four Gable Form

Made by combining four hyperbolic-paraboloid surfaces, each one having three high corners and one low corner.

This type can stand alone or be combined: (downspouts can be provided in the columns)



Surface generated by straight lines connecting corresponding points on opposite sides. Points are found by passing vertical planes parallel to vertical center line plane through both sides. Sides "A" and "B" may both be curved (of different curvatures), or one side may be straight and one curved (as shown).

Lines A-1 to B-1, A-2 to B-2, A-3 to B-3, etc., are all straight and all lie in planes parallel to center line plane through A-6 and B-6

References for Anticlastic Shells

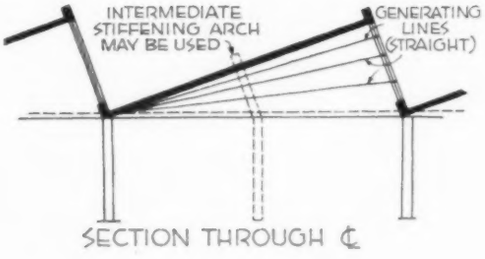
Most Important: International Association for Bridge & Structural Engineering, Zurich—Vol. 4, pp. 1–112 F. Aimond: "Étude Statique De Voiles Minces En Paraboloide Hyperbolique Travaillant Sans Flexion"

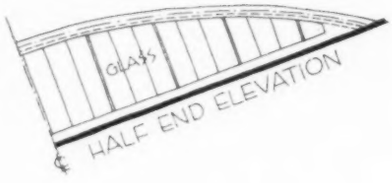
- Ditto—Vol. 2, pp. 167–179. M. Fauconnier "Essai De Rupture D'une Voute Mince Conoide En Beton Armé"
- Ditto—Vol. 3, pp. 295–332. B. Laffaille—"Mémoire Sur L'Étude Générale Des Surfaces Gauches Minces"
- American Concrete Institute Journal, March 1953—F. Candela "Skew Shells Make Unusual House Roof."

STRUCTURAL FORMS—27: THIN SHELLS OF REINFORCED CONCRETE

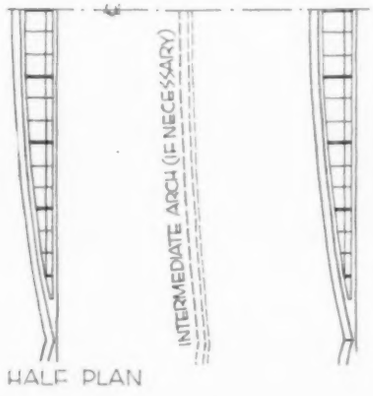
By Seymour Howard, Architect, Instructor at Pratt Institute

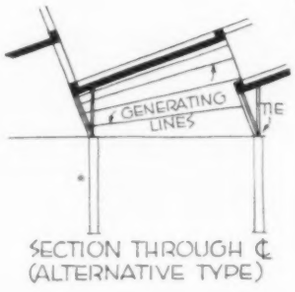
B-3-b CONOIDS *(Continued)*

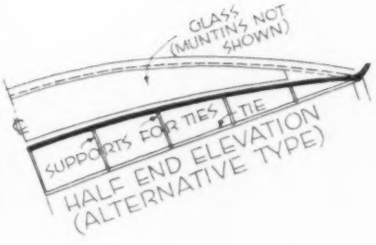




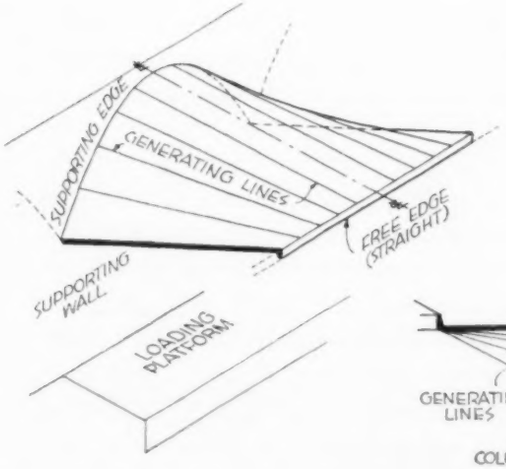
Used for north light:
(compare with sheet 19, showing tilted conical & cylindrical shell solutions)



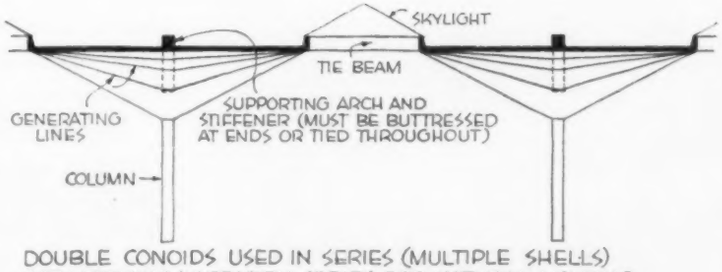




In addition to providing a simple solution to the north light problem, conoids can be effectively used as cantilevers over loading platforms or as double cantilevers for top lighting



◀ Isometric of a conoid used as a canopy



DOUBLE CONOIDS USED IN SERIES (MULTIPLE SHELLS) WITH OPENINGS BETWEEN SERIES FOR NATURAL LIGHTING

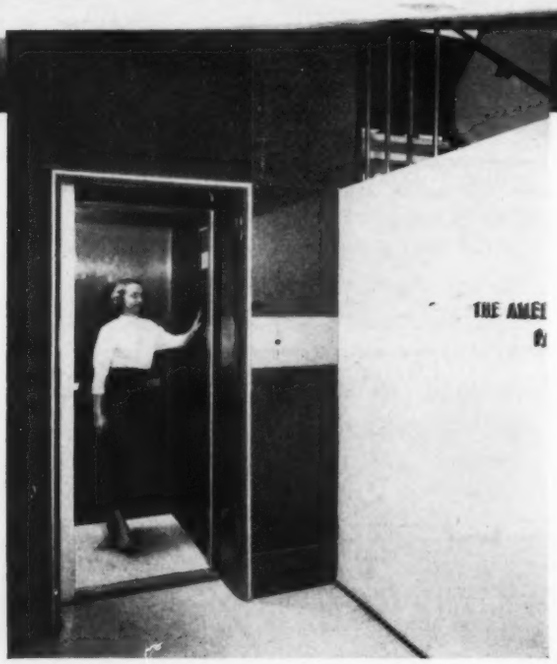
Rotary Oildraulic

THE MODERN ELEVATO

NORTHWESTERN MUTUAL FIRE ASS'N

Los Angeles, Calif.
Architect: Richard J. Neutra
Contractors: C. W. Driver, Inc.
Rotary Oildraulic Elevator (passenger) installed by Elevator Maintenance Co., Ltd.

Photos by Julius Shulman



Oildraulic Passenger Elevators

The velvet-smooth fluid operation of the Oildraulic system is ideal for passenger elevator service. You can depend on gentle starts, cushioned stops and accurate landings. Operation of elevator can be with or without attendant.

No penthouse or heavy supporting sidewalls nee

The Rotary Oildraulic Elevator is moved and controlled by oil under pressure, the most powerful and practical of all methods of lifting heavy loads. The elevator car and its load are supported by the hydraulic system—not by the building structure. This makes possible a substantial lightening of the shaftway structure, with savings in construction costs. There's no need for heavy, load-bearing sidewalls, supporting columns and footings ordinarily required to carry the overhead machinery, the car and the load.

No penthouse is used with an Oildraulic Elevator and, in many cases, a machine room is unnecessary. Rotary's compact power unit can be located on any landing, on any side of the hatchway — anywhere within 50 feet of the elevator. This saves valuable space.

TO OR PASSENGER OR FREIGHT SERVICE

CITIES SERVICE OIL COMPANY

Chicago, Ill.

Engineers and Contractors:
Sumner S. Sollitt Construction Co.

Rotary Oildraulic Elevator (freight) installed by Gallaher & Speck, Inc.

Photos by Torkel Korling

Oildraulic Freight Elevators

Oildraulic operation makes it practical and economical to design Rotary Elevators to carry loads up to 100,000 lbs. Oildraulic Freight Elevator cars have extra-rugged construction essential for rough, tough freight service and power truck loading.

need **ota-Flow power system gives smooth, quiet, low-cost service**

A revolutionary oil hydraulic power system moves Rotary Oildraulic Elevators on a smooth, continuous column of oil. Combined with the efficient ota-Flow power unit to give perfect operation is the Oildraulic Controller. his engineering marvel handles the functions of seven separate control lves, simplifies adjustments and maintenance.

Smooth starts and stops are a feature of these modern elevators. Oildraulic utomatic floor leveling positions the car to each landing with exactness— " accuracy is guaranteed!

Over 75,000 Rotary Oildraulic elevators and lifts are serving leading mpanies from coast to coast. Our Engineering Department will be glad assist you. Write for catalog and complete architectural data.

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gineered and built by Rotary, the world's oldest and largest maker of oil hydraulic elevators

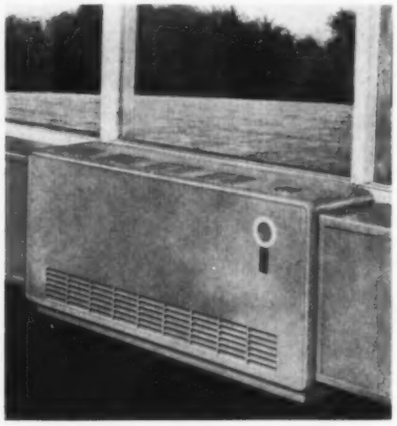
SEE OUR CATALOG IN SWEET'S FILES

A|E PRODUCTS

(Continued from page 209)

UNIT VENTILATOR FOR CLASSROOMS

A new cooling, heating and ventilating unit for school classrooms in mild climate areas, the *Herman Nelson Amerrent* incorporates a self-contained electronic temperature control with room thermostat. This control is installed and adjusted in each unit at the factory, and only steam or hot water piping plus an electrical connection is necessary on the



Unit ventilator features self-contained electronic temperature control with room thermostat

job. The resultant "package" unit is expected to reduce labor and installation costs on the job. Being designed specifically for design temperatures of plus 10 and above, the unit is also equipped with a "super-cooling" speed for comfort cooling in mild weather. It is available in three models, of which the "CC" model is a combination hot water and chilled water unit. Other models operate on steam or hot water and provide ventilation as well as heating. American Air Filter Co., Inc., 215 Central Ave., Louisville 8, Ky.

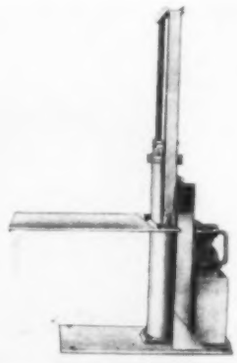
RECESS LIGHTING

Low cost recess light for a wide range of applications is said to be provided by *Guth* "Loov-O-Lites," round incandescent fixtures recently developed. The units are built with aluminum reflectors for high efficiency and durability. The reflectors reportedly can be dropped without danger of breakage, and will not become brittle or tarnish from age or heat.

The lights are said to be adaptable to nearly any application, for general or accent lighting. Two types of reflectors are available: a narrow 30 deg beam design and a wide-angle 70 deg beam. Both are made in 3 sizes, to handle lamps from 60 to 300 w. There is also a choice of three bottom assemblies: open, concentric metal louvers with 35 deg cutoff, and glass "louver lenses" which diffuse down-light and give a pleasant light-spill to adjacent ceiling areas. To simplify wiring and installation, the units are designed so the socket-covers are detachable from the reflector. The lights are packaged in complete units with Plaster and Ceiling rings and Louvers when ordered. Edwin F. Guth Co., 2615 Washington Ave., St. Louis 3, Mo.

MACHINE FEED TABLE

A new *Globe Hoist* oil-hydraulic powered machine feed table is also designed to handle many lifting and loading jobs in plants and warehouses. Ordinarily, the compact, semi-portable lift is used to speed production in machine feeding operations. Placed alongside a press, cutter, or conveyor belt, it reportedly keeps the stock pile constantly level with the surface of the feeding platform



Lift **table helps speed production in machine feeding operations**

to insure the operator of a more comfortable working position and eliminates many bending, twisting and fatigue-producing motions. Completely self-contained, the unit may be powered from a compressed air line or by the

(Continued on page 226)

525 WILLIAM PENN PLACE BUILDING

Pittsburgh, Pa.

. . . Another famous building specifies

Sargent products

for present and future beauty and protection

How the list *grows!*

Architects of building after building come to Sargent for locks, exit bolts, door closers and many other items of builders hardware. They do this *primarily*, we believe, because of Sargent's reputation for *reliability* over long periods of time.

Then, they seem to find many *other* reasons for specifying Sargent. Beauty of design . . . extra safety or convenience features . . . quality of materials . . . fair prices.

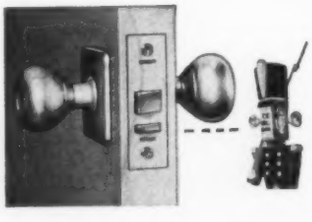
Investigate . . . and you will want Sargent Integralocks for *your* buildings, too. These locks are available in enduringly handsome brass, bronze or aluminum. The 7645 function has the double protection of the SENTRY BOLT, positioned horizontally for extra strength . . . and equipped with stop buttons to deadlock the outside knob.

You'll find that Sargent Liquid Door Closers give s-m-o-o-t-h, trouble-free performance year after year. And that Sargent Exit Bolts, operating with *hair trigger action*, will help you sleep well nights because of the *sure* protection that they give!

Yes, for many, many reasons, you'll always be glad you specified Sargent Products.

For complete data and specifications, write to Dept. 31K

Architect: George Aubrey Hastings
Contractor: Turner Construction Company
Operation and Management: John W. Galbreath & Company



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SARGENT of New Haven

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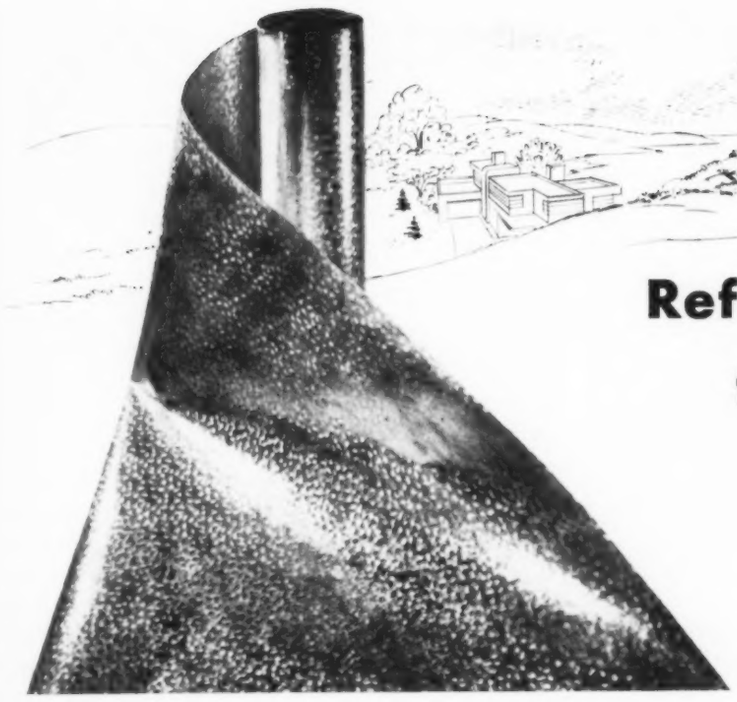


Reflecting the modern trend

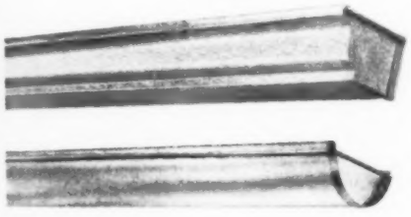
Reflection is the modern principle in insulation... especially air-cooling and radiant heating. And nothing reflects like aluminum. It bounces back up to 95% of radiant heat.

Reynolds, pioneers in the field, laminate aluminum foil to tough kraft paper by special pressure-embossing that provides a firmer bond and better appearance. Double-faced (Type B) or single-faced (Type C) in one or several layers can attain almost any required U-factor. Perfect vapor barrier. Excellent for unheated crawl spaces.

Clean, odorless... material cost much lower than most bulk insulations . . . quicker, cheaper application. Consider these advantages in your next insulation problem. Write for literature.

REYNOLDS METALS COMPANY, Building Products Division, 2015 So. Ninth Street, Louisville 1, Kentucky.

REYNOLDS *Lifetime* ALUMINUM REFLECTIVE INSULATION



REYNOLDS *Lifetime* ALUMINUM GUTTERS

Faster installation (slip joints, no soldering) makes applied cost *actually less* than cheaper rustable materials. Non-staining, beautiful. In Ogee or Half-Round, smooth or stipple-embossed finish.

REYNOLDS *Lifetime* ALUMINUM FLASHING

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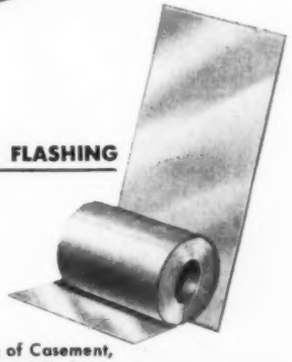
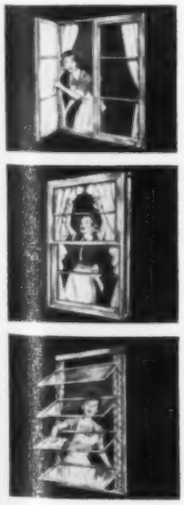




REYNOLDS ALUMINUM WINDOWS

Exceptional "satinized" finish protected by special cartons and lacquer coating. Quality controlled from bauxite to building site.

Write for 20-page catalog of Casement, Awning and Double-Hung Windows.

SEE "MISTER PEEPERS," starring Wally Cox, Sundays, NBC-TV Network.

REYNOLDS ALUMINUM

A-H PRODUCTS

(Continued from page 221)

integral electric oil pump and reservoir mounted on its base plate. For easy moving, it can be supplied with casters. If the job requires rigidity, it can be lag-screwed to the floor.

The table has a rise of 37 in., accurately controlled by a pushbutton conveniently located for the operator. As the machine is fed, the operator can "inch" the stock pile upward to keep the top always level with his machine. The standard model has a lifting capacity of 750 lbs. Other models with capacities to 6000 lbs are available on special order. Globe Hoist Co., E. Mermaid Lane at Queen St., Philadelphia 18, Pa.

CORRUGATED ALUMINUM ROOFING AND SIDING

Availability of new, wider corrugated aluminum sheets for roofing and siding, and also, wider industrial corrugated sheets has been announced by *Reynolds Metals*. The new sheets are 48 in. wide, as compared to a 26-in. width for roofing and siding sheets formerly available, and 35-in. width for old-type industrial sheets. The wider sheets reportedly require fewer side laps, making possible a significant saving in metal. With 26-in. roofing and siding sheets, 13 per cent of the sheet area is used in making side laps, but with the new "Lifetime" 48-in. sheet, the side lap is reduced to 6.5 per cent — a saving of 50 per cent. And, since the 48-in. corrugated roofing and siding is approximately 87 per cent wider than 26-in. corrugated, handling is cut in half. This is said to result in great savings in time and labor, and to help cut installation costs to a minimum.

The wider roofing and siding sheets are available in .019-in. (U. S. Std. 26 Gauge) and .024-in. (U. S. Std. 24 Gauge). The sheets are embossed for greater beauty and rigidity, for better diffusion of reflected light and reduction of the possibility of surface scratches. The industrial sheets are available only in .32-in. (22 U. S. Std. Gauge), and come in lengths ranging from 5 to 12 ft, with special lengths cut to order subject to inquiry. The material's weight is 56 lbs per 100 sq ft of formed sheet. Reynolds Metals Co., 2500 S. Third St., Louisville, Ky.

(Continued on page 230)

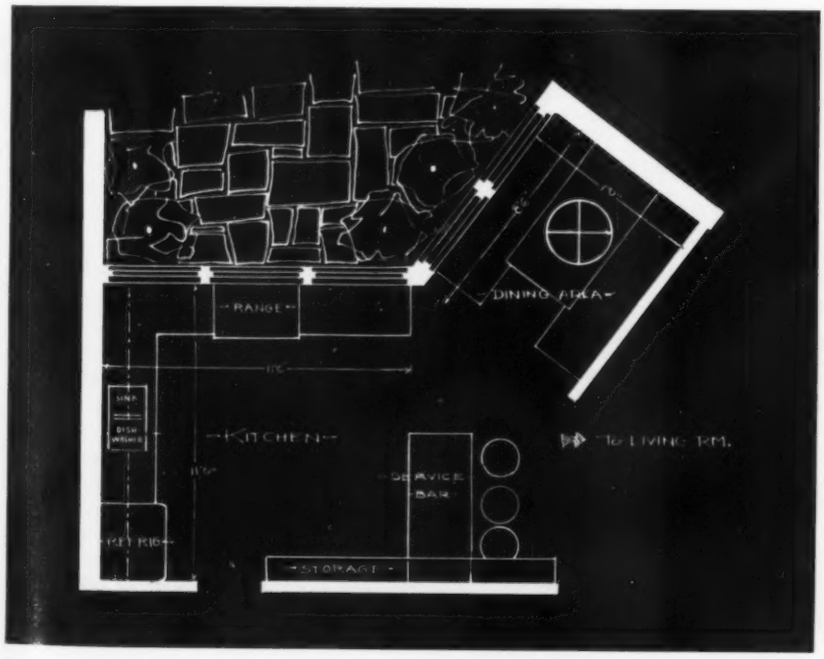
much sense as gas

So very often, a distinctive kitchen means a pace-setting house. *You* decide on the picture windows, the service bar, the modern decor and the open rafters. Let *Gas* supply the range and the refrigerator that can set them all off. Instead of a few range models, you have hundreds — all fully automatic. Ranges that glitter with chrome. Ranges that glow with color. Mammoth ranges that can handle a banquet. Thirty-inch ranges that nestle in a corner. Separate range units that are built into cabinets. Name it — and you'll find it in Gas; the fuel that every woman knows cooks best by every test, the fuel that costs less to install and use. Whether you're building or remodeling, Gas definitely makes the most sense.

New twin **Hamilton** washer and automatic Gas dryer; **Ruud** automatic Gas water-heater.

A custom home is almost sure to have an automatic washing machine, an automatic dishwasher and extra bathrooms—3 good reasons for an automatic Gas water-heater. The recovery rate of Gas is so much faster that a 30-gallon tank actually gives more service than an 80-gallon tank run by any other all-automatic fuel. An automatic clothes dryer is also rapidly becoming a standard feature in better houses. Here, too, Gas is considerably faster (there's no warm-up period), more efficient. No two ways about it, in every area of every home, Gas is faster, thriftier, more satisfactory.

AMERICAN GAS ASSOCIATION



Your local Gas company will be happy to work with you on any problem.

Only Gas gives you such a big choice of modern models

GAS—the modern fuel for automatic cooking . . . refrigeration . . . water-heating . . . house-heating . . . air-conditioning . . . clothes-drying . . . incineration.

A E PRODUCTS

(Continued from page 226)

POTTERY PLANTERS

Architectural Pottery has added to its line two new smaller size bowls on black iron stands. Designed to fit into the average home, office and garden, these two planting containers rest on "Parkerized" rust-resistant stands, and permit the home owner to place plants over carpeted areas. The pottery is high-fired stoneware, but is unglazed, allowing plants to breathe and grow luxuriantly. Unlike the company's larger models, these bowls are being produced in quantity and will be offered to a wide retail market. The new bowls are 16½-in. wide and 14½-in. tall (with the stand), and 15-in. wide and 14-in. tall, respectively.

Unglazed pottery planters on metal stands are suitable on the terrace or in the living room

First introduced three years ago, the line has received a Good Design award from the Museum of Modern Art. Architectural Pottery, 3562 Meier St., Venice, Calif.

ICE REMOVER

An ice removing chemical which is said to cut the winter cost of cleaning steps, walks, drives, loading docks and parking lots, "Monroe X-73 Ice Remover" reportedly melts ice and thaws snow many times faster than salt, eliminates ice chipping and greatly reduces the need for snow shoveling. It is also reported to contain a rust inhibitor which affects protection to automobiles, machinery, drains and gutters. Produced in the form of coarse granules, the ice remover can be used by sprinkling

(Continued on page 232)

...the PLACE for—

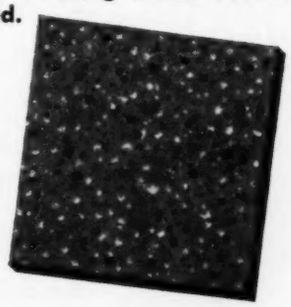
HAKO Poly-krome"

RESILIENT TERRAZZO TYPE TILE *the "moderne" in floor tile*

the hospital, school, office building, club room, show room and home installation

SPECIFY Poly-krome FOR ECONOMY

Low initial cost and maintenance economy make new Poly-Krome a practical floor covering where unusual festive atmosphere is desired.



Many colors in 9" x 9" 1/8" and 3/16" tile--- brown, black, yellow, tan, green, ivory gray, and red with multi-colored chips, black field with white chips and white field with black chips.

SPECIFY Poly-krome FOR BEAUTY

This striking floor tile, an old art brought up to date, is resilient terrazzo type tile! Its gay, appearance will cheer up any room and the multi-colored chips in each tile enhances any decorative scheme.

SPECIFY Poly-krome FOR DURABILITY

The years have proven the down-right durability of Hako Tile for busy indoor highways. In Poly-Krome the color chips are deeply imbedded in each tile . . . they don't wear off. Poly-Krome is reinforced with polystyrene.

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Coronet PLASTIC WALL TILE | Vinylflex | Asphalt Tile FLOORING | Parquetry FLOOR TILE | ASPHALT New Pastel

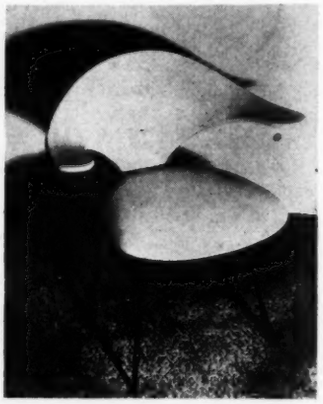
AE PRODUCTS

(Continued from page 230)

lightly over icy surfaces. It spreads itself thoroughly to melt slippery ice and snow, and is recommended for furnishing quick traction under spinning automobile and truck wheels. Available in 100 and 200-lb fiber drums and in waterproof paper bags. Monroe Co., Inc., 10703 Quebec Ave., Cleveland 6, Ohio.

SPRAYED PLASTIC FURNITURE

A new chair manufactured largely with a spray gun marks an unusual development in the use of plastics in the furniture field. Designed jointly by Guy Rothenstein (who worked with Le Corbusier, and who exhibited furniture in the 1937 Paris Exhibition) and Progressive Industries, Inc., the chair reportedly is unaffected by weather and impervious to moisture, mildew, scuffing and stains — making it equally serviceable outdoors as in. The seat, made of thick foam rubber and vinyl cut to shape, is "upholstered" by spraying on a coating of liquid vinyl plastic, which takes the exact shape of the cushion and offers a durable covering without creases or seams. The back and arm rests are in one piece and constructed of wrought iron, the whole unit taking shape and substance as the plastic is webbed across the iron supports, and then accumulated to transform the framework into a solid piece. Equipment & Furniture Co., Inc., 114 E. 32nd St., New York, N. Y.



Foam rubber chair is upholstered by spraying on a vinyl plastic liquid

(Continued on page 240)

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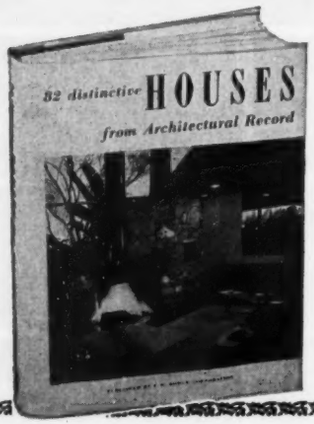
82 DISTINCTIVE HOUSES

selected from *Architectural Record*



THIS album of houses is a splendid gift item for any architect, designer, builder and present or prospective home owner.

On display here are 82 of the finest houses published in *Architectural Record* in the past few years. Each house is depicted in superb interior and exterior photographs which dramatize its design and convey its individuality.

Created by such craftsmen as Pietro Belluschi, John H. Callender, and Paul Thiry, these 82 houses represent a wide range of localities, living habits, personal tastes, and sites. Along with the photographs are complete floor plans, site plans, drawings of structural elements, and design details. Comprising the last 100 pages are Time-Saver Standards for Houses, taken from recent issues of the *Record*.

82 DISTINCTIVE HOUSES exhibits contemporary home design at its finest in masterworks of America's most gifted architects. 437 pages, 8½ x 11⅜, $8.00.

DESIGN AND CONSTRUCTION OF GENERAL HOSPITALS

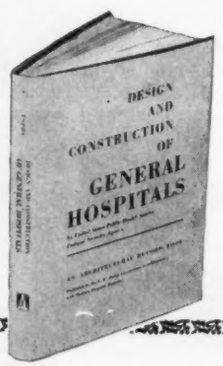
by the U. S. Public Health Service

A collaborative publishing effort of *Architectural Record* and *The Modern Hospital* Magazine

RECENT years have witnessed such revolutionary progress in medical science that the very basic approach to the design of hospital buildings has been completely changed.

For the past ten years, leading authorities on hospital design, working with the U. S. Public Health Service, *Architectural Record*, and The Modern Hospital, have examined, interpreted, and reported far-reaching improvements in hospital design, equipment and facilities. This book presents the fruits of their effort — a vast fund of planning information never before available in one place.

It presents prototypes of successful hospital design, complete with 30 master plans for hospitals of every size. Each plan is accurately scaled, fully detailed, and visualized in skillful rendering. Illustrations of floor plans, site plans, and a variety of charts and tabular data help to provide step-by-step guidance in planning the general hospital. 206 pages, 8½" x 11", Illustrated, $12.00.

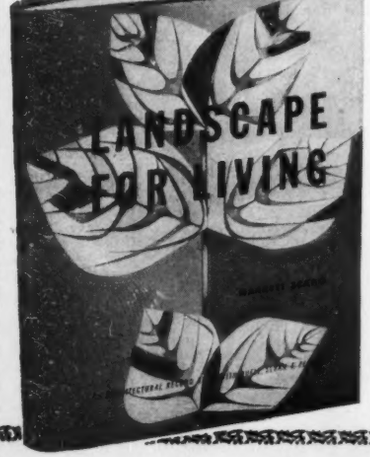


COMMERCIAL BUILDINGS

selected from *Architectural Record*

TRADITIONAL styles of commercial buildings, with their costly but useless adornments, have largely given way to the simpler, less expensive structural forms of contemporary design. Accompanying this great change has been the appearance of entirely new types of buildings — TV studios, airport control centers, and others — needed to keep pace with new inventions, modes of travel, and social habits.

This new book is a vivid pictorial record of this revolution in design as exemplified by scores of the best buildings erected during the past seven years. First published in *Architectural Record*, these projects clearly demonstrate the new design themes, the novel materials and structural methods, which have won wide acceptance in recent years. Each project is shown in a series of photographs, floor plans, structural features, and major details of design. 400 pages, 8½" x 11", Illustrated, approx. $9.50.



LANDSCAPE FOR LIVING

***by* GARRETT ECKBO**

PLANNED with insight and written with craftsmanship, this volume examines the purposes, problems, and practices of landscape design, and recommends specific ways to achieve both beauty and utility in layout of lawns, shrubbery, trees, and gardens.

Mr. Eckbo imparts a sound understanding of landscape design by tracing its history, and outlining proven principles of symmetrical layout of grounds. Entire sections are devoted to materials, plants and planting, site conditions, structural factors, gardens, public buildings, and group housing. Included are many photographs, renderings, and diagrams of fine landscaping. 288 pages, 8 x 10¾, $10.00.

Perfect Gift for Home Craftsmen

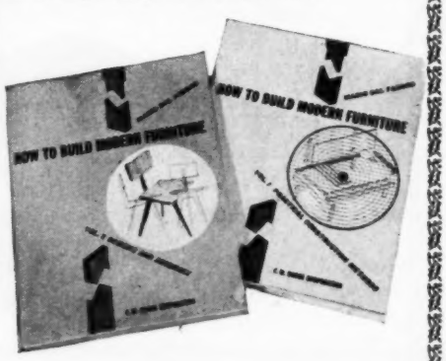
HOW TO BUILD MODERN FURNITURE

by **MARIO DAL FABBRO**

Vol. I: Practical Construction Methods
Vol. II: Designs and Assembly

Amateur craftsmen everywhere will find many hours of happy, rewarding effort in this new 2-volume set by Mario dal Fabbro, noted custom-designer of modern furniture. Architects, designers, and interior decorators will also welcome it as a rich source of ideas and inspiration in their work.

With more than 1500 diagrams, well over 100 photographs, these two books cover every phase of furniture design and construction, from selection of the wood to application of the finish. Text is brief and clear; illustrations do most of the teaching. Each step is pictured in graphic detail, exactly as performed by expert cabinetmakers. Chairs, tables, magazine racks, cabinets, desks, bookshelves, beds, and sofas — all these and many more can be built quickly and easily, at a great saving over their retail cost. Special features include complete sections on care and use of tools — standard furniture measurements — upholstery work — and photographs of pleasing room arrangements.



The set comprises 250 pages, 8½ x 11, and is priced at only $9.50. Either volume alone, $6.00.

ARCHITECTURAL PHOTOGRAPHY OF HOUSES

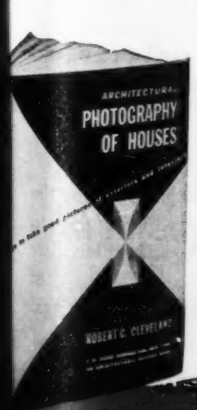
How to Take Good Pictures of Exteriors and Interiors

by **ROBERT C. CLEVELAND**

Lavishly illustrated with some 350 vivid photographs of fine houses, in both contemporary and traditional styles, this new book reveals the expert craft of the architectural photographer.

Architects and interior decorators can use Architectural Photography of Houses as a guide to obtaining top-notch photographic records of their work. Homeowners will find it a source of fascinating ideas they can adopt in their houses. And both professional and amateur photographers can use the book to help perfect their skill in scores of ways.

Each photograph carries two captions, one giving important design information, the other revealing the photographic technique employed. Special features include a "portfolio of rooms" which presents splendid interior views of living rooms, bedrooms, dining rooms, playrooms, etc.; a study of the photographic methods which successfully capture the central theme and mood of a house; and an entire section of hints and pointers for the amateur cameraman.



Architectural Photography of Houses comprises 160 pages, some 350 photographs, 8¾" x 11⅝" format, only $7.50.

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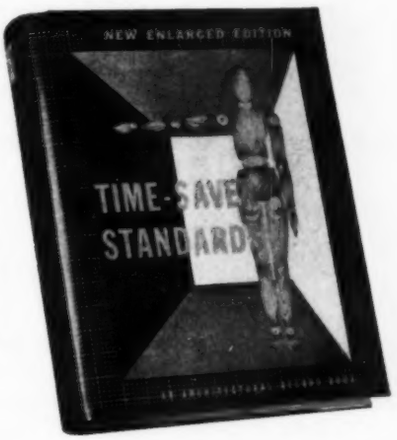
The Giant Workbook of Architectural Data

TIME-SAVER STANDARDS

Compiled for the guidance and use of architects, engineers, specification writers and building technicians, Time-Saver Standards is by all odds the most useful reference work of its kind ever published. This one volume provides proven-in-use solutions to hundreds of structural problems — is the one indispensable source of essential data on architectural design, materials technology, engineering method, and building practice.

This massive volume contains 319 complete technical studies selected over a 14-year period from the work of the nation's foremost architects and engineers. It is the finest, most detailed illustrative material in existence today.

Experience shows that a single item in Time-Saver Standards can save literally thousands of dollars in construction costs, as well as long hours of weary research. For here — in handy, compact form — is the concise planning data, the accurate facts and figures, the exact specifications that will help you and your staff do better work, far faster, far more easily.

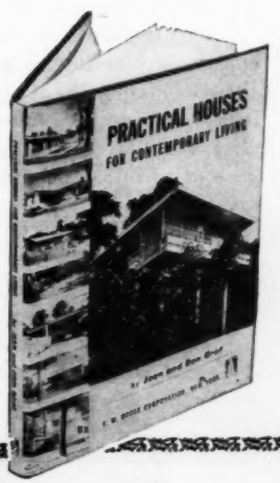


Time-Saver Standards is priced at $12.50, a small fraction of its true value to you. 319 Standards — 888 Pages — Over 1000 Charts, Diagrams, and Drawings.

PRACTICAL HOUSES FOR CONTEMPORARY LIVING

by **JEAN and DON GRAF**

Displayed in this new book are forty houses with "built-in personalities" — houses that reflect their owners' tastes and living habits like a mirror reflects an image. Selected from all regions of the U. S., they represent many prevailing styles of architecture, and all price ranges from $7500 up.



There are six categories of dwellings to satisfy virtually all shelter requirements: Houses for One Person; Houses for Small Families; Houses on Limited Plots; Houses on Irregular Sites; and Houses Unlimited (the best that money can buy). Complete plans accompany each set of photos. 194 pages, 8½ x 11⅜, $6.95.

INDUSTRIAL BUILDINGS

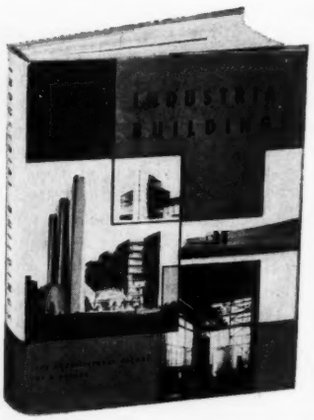
DESIGN DATA BOOK

The *Architectural Record* of a decade

ALL of the famed Building Type Studies on Industrial Buildings published by *Architectural Record* over a ten-year period — including the extremely active war and post-war years — are reprinted in this immense 546-page volume.

More than 1100 illustrations highlight these 116 professional studies of America's finest manufacturing and processing plants, research centers, and laboratories. Everything from small machine shops to huge plants like Detroit's Willow Run is analyzed in this great compendium of plans, procedures, and job practice that represents the skill and experience of hundreds of architects and engineers.

Every conceivable problem is set forth in detail, and its solution fully explained: Steel Framing; Thermal Expansion; Foundation Design; Heating, Ventilating and Sanitary Systems; Color Plans; etc. 546 pages, 8¾ x 11, $9.00.



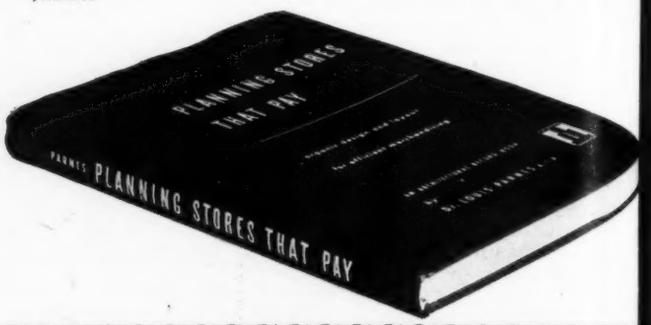
PLANNING STORES THAT PAY

by DR. LOUIS PARNES, A.I.A.

IN this book Dr. Parnes demonstrates the amazing degree to which architecture — as expressed in counter design, layout of aisles, traffic flow, etc. — speeds and increases retail sales in department stores and specialty or chain stores. Point by point he conducts a tour of the store to illustrate the right and wrong aspects of profit-making design.

With more than 500 illustrations, this book explores each detail of the store and its equipment — entrances, arcades, show windows, furniture and fixtures, shipping and receiving services, departmental and floor layouts, display counters and cabinets, lighting — all the hundreds of features that help to sell merchandise.

Diagrams, charts, and scale drawings, taken from plans of America's best retail stores, illustrate each point in graphic, unmistakable manner. The book is not only a guide to planning new stores, but also for remodelling older ones. 456 pages, 9 x 12, $10.00.



Coming in November —

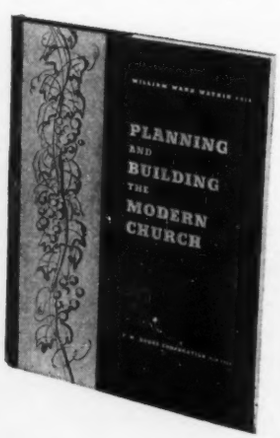
MOTELS, HOTELS, RESTAURANTS AND BARS

HERE is a carefully chosen presentation of the best material published in *Architectural Record* on these building types. Emphasis is on current design trends, techniques and structural features. Within each category, buildings of many sizes, styles, and localities are included. Some of the better-known projects include the Statler Center in Los Angeles, Hilton Hotel in Istanbul, bar and restaurant of the Hotel McAlpin in New York, and Henrici's Restaurant in Chicago. Each of the buildings and projects is profusely illustrated with photographs, plans and renderings. 215 pages, 8¾″ x 11⅝″, Illustrated, $6.95.

PLANNING AND BUILDING THE MODERN CHURCH

by WILLIAM WARD WATKIN

A Practical Book for Architects, Clergymen, and Church Committeemen



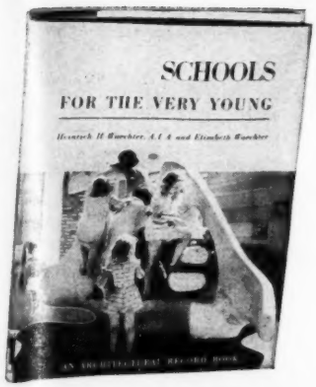
HERE, at long last, is a major work upon a long neglected phase of American culture, church architecture. Planning and building the modern church, as presented in this book, is a co-operative venture among architect, clergy, and laymen of the church committee, each of whom contributes a special viewpoint and skill.

Chapter by chapter, Mr. Watkin examines each step in the project: selecting the architect, locating the best site, choice of basic design, deciding upon materials; interior layout of pews and aisles, design of the nave, fenestration, lighting, heating, acoustics, furnishings and statuary — every question which must be considered. He also discusses factors of external environment, such as the type of neighborhood, proximity to public transport, parking areas, landscaping, and all other problems which affect the church and its congregation.

Also included is detailed planning data for the church school, with stress upon its design, function, and facilities. This book is splendidly illustrated with photographs of many of America's most impressive church buildings. 166 pages, 9 x 12, $8.50.

SCHOOLS FOR THE VERY YOUNG

by **H. H. WAECHTER and E. WAECHTER**



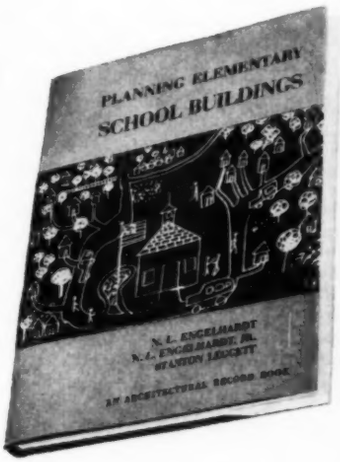
IN the literature of school planning, scant attention has been paid to the pre-school — that unique building which, as a combined school and nursery, can best promote the proper training of the very young and impressionable child.

Thus SCHOOLS FOR THE VERY YOUNG is the first definitive study of a building type that assumes more importance with each passing year. Opening with a brief history, this book describes the pre-school in action, noting events of a typical day. Full attention is given to classroom layout and facilities, space arrangements, indoor and outdoor play areas, and the various types of lighting, heating, and ventilating systems called for by the special functions of these pre-elementary schools.

The authors also discuss the place and purpose of the pre-school in its community, and cite examples of schools designed to meet particular sets of environmental conditions. 208 pages, 7⅜ x 10, $6.50.

PLANNING ELEMENTARY SCHOOL BUILDINGS

by **N. L. ENGELHARDT, Sr., N. L. ENGELHARDT, Jr., and STANTON LEGGETT**



WRITTEN by three widely-known school planning consultants, this book is an authoritative and up-to-date guide for architects, school officials, school board members, and others responsible for building or remodeling schools.

PLANNING ELEMENTARY SCHOOL BUILDINGS is an exhaustive study of all phases of an intricate subject. The author tells how to survey the specific needs of a community, then takes up financing plans, cost estimating, site selection, basic design, choice of materials, classroom layout and equipment, the auditorium, the school library, the cafeteria, outdoor and indoor play areas, offices, and other major requirements. He also analyzes improved methods of heating, ventilating, and lighting the school, and discusses communications equipment, safety measures, sanitary facilities, and the like.

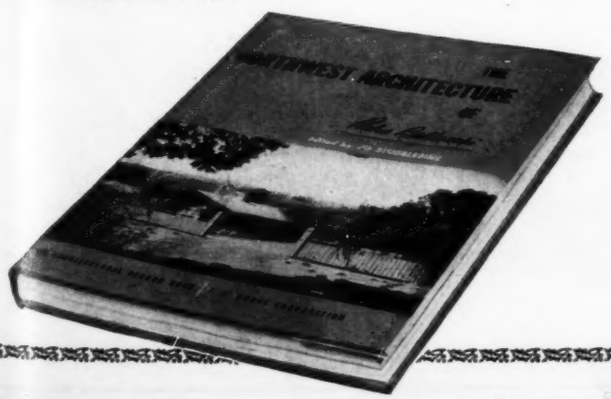
Some 250 photographs and drawings supplement the text; check-lists of essential equipment are included to simplify planning and purchasing. 820 pages, 8¾ x 11⅝, $12.50.

The
NORTHWEST ARCHITECTURE OF PIETRO BELLUSCHI

edited by **JO STUBBLEBINE**

COLLECTED here for the first time in book form is the work of Pietro Belluschi, a major exponent of the contemporary style, and a man who has made an historic contribution to American architecture.

Through this pictorial study of his work, which includes houses, churches, and commercial buildings of several types, the reader can fully grasp the extent of Mr. Belluschi's talent and the versatility of his art. These photographs of his work bear witness to the man's integrity, his intuitive sense of the tasteful and appropriate, his rare ability to express in wood, stone, and metal the rugged character of the Pacific Northwest and the admirable individualism of its people. 112 pages, 8 x 10½, Illustrated, $6.50.



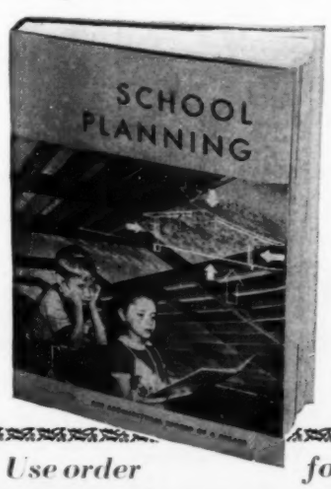
SCHOOL PLANNING

DATA BOOK

Compiled by *Architectural Record*

SCHOOL PLANNING is a reprint of material published in *Architectural Record* chronicling the remarkable advances in school design achieved during the past ten years.

School buildings of every type and size, from all parts of the United States, are displayed here — with plans and construction details shown exactly as the architects developed them to suit the climatic conditions and educational needs of the particular locality. These case-studies represent the best schools built in recent years, and provide an exhaustive study of trends and techniques in every major phase of school planning and building.



These studies present widely differing new methods for the design of multi-purpose rooms and corridors; classroom shapes; modular design; bilateral and artificial lighting; and a host of other key subjects. 456 pages, 8¾ x 11⅝, over 1000 illustrations, $8.00.

Use order form on following page ➤

The Dramatic Life Story
of a World-famed Architect

MARCEL BREUER:

ARCHITECT & DESIGNER

by **PETER BLAKE**

THIS masterful biography of Marcel Breuer captures the essence and spirit of one of the most gifted and influential architects of our time. It is a book that will strike a responsive chord in the heart of every architect and designer — one that will instruct, charm and inspire you, and one you will be proud to display on your library shelf. 196 photographs and drawings, 128 pages, 8½ x 10¾, $4.00.

THE LAST LATH

by **ALAN DUNN**

AN album of 152 clever cartoons that poke good-humored fun at real estate and building, and the people in and around it . . . the perfect gift for clients, professional friends, and business associates.

As the San Francisco Chronicle remarks, "If these cartoons don't strike you funny, then you've never built a house, or even lived in one." Drawn by Alan Dunn, these slyly satirical sketches are sure to delight everyone. $2.50.

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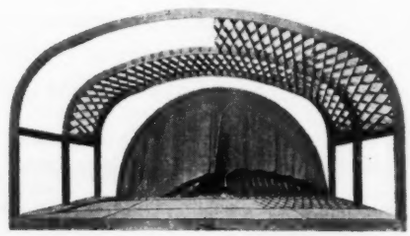
(Continued from page 232)

NEW ROOF STRUCTURE

A roof structure described as collapsible, portable, able to support any kind of roofing material, and costing only 60 per cent of conventional construction is now being marketed. Called *Gambella* the new roof structure was originally designed for farm buildings to simulate quonset type structure.

Its basic purpose was to furnish the farmer with a structure which could be readily shipped in package form, and easily and quickly erected with hand-tools. However, when war broke out in Korea, the development was called to the attention of the military as a lightweight, easily transportable structure for hangars, field warehouses, etc. The roof can be designed for any type of structure up to 100 ft clear span, with continuous laminated 3-hinge arch or bowstring trusses for straight side structural applications. No intermediate purlins are required between the arches when the "Gambella" structural unit is used, and because of the continuous longitudinal support, arches of relatively thin section can be used, thus reducing the weight and cost of structure. Because of its great flexibility, it can be used in cylindrical structures with simplicity of erection and high structural strength. Gamble Bros. 4601 Almond Ave., Louisville 9, Ky.



Versatile roof structure is flexible, collapsible, portable, low-cost

BATHROOM FIXTURES

A new line of *American Standard* bathroom fixtures recently introduced includes six lavatories and two water closets. Harmonizing with the company's "Master Pembroke" and "Neo-Angle" bath tubs, all of the new designs are constructed of vitreous china. Washing area of the lavatories is larger, with a wider front and a tapering to narrow back, which provides space for two soap dishes cast in on both sides. Wide overflows are hidden from sight under the front apron. Styles include two and four-in. shelf-back and slab type models in wall-hung, pedestal and towel bar and legs installations. Available in white and several colors, the lavatories include "New Companion," "New Comrade," "New Roxbury," "New Buena," "New Hibben," and "New Blackford." Water closets include "New Compact" and "New Cadet." American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa.

(Continued on page 244)

Bright new school theme

FUNCTIONAL COLOR *Suntile*

Suntile Corridor, Highland Elementary School, Westfield, Massachusetts

Architect James A. Britton, A.I.A. (right)
Associate Harvey H. Hatheway (left)

Architect James A. Britton reports:

"In Suntile we have found the answer to a recurring school design problem: how to provide an interior finish that combines desirable color and texture with durability and easy maintenance.

"Suntile's well-related colors made it possible for us to use one shade up to wainscot height and another above—both for better light reflection and added interest in corridors and other heavy-duty areas.

"We feel that it's a sound investment. The school children and the public are enthusiastic, and we've already been asked to continue the use of Suntile in our other school work."

You will find Suntile equally valuable in schools, hospitals, industrial plants, commercial or residential structures. Suntile colors are "fitted-to-function" by Faber Birren, nationally known color authority. Bright, stimulating Suntile colors aid light reflection—more neutral shades diminish glare, reduce eyestrain, fatigue. And Suntile also offers your clients all the time-tested advantages of real clay tile—permanence, fire-safety, ease of cleaning, low maintenance costs. Ask your Authorized Suntile Dealer for a free copy of "Suntile Color Recommendations," or write Dept. AR10.

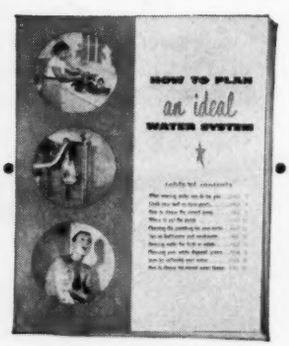
THE CAMBRIDGE TILE MFG. CO.
P. O. Box 71, Cincinnati 15, Ohio

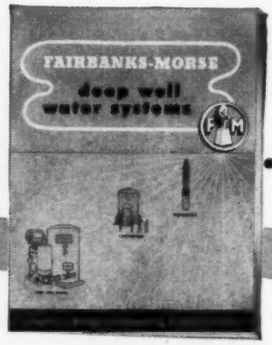
WEST COAST OFFICES

The Cambridge Tile Mfg. Co.
470 Alabama Street
San Francisco 10, California

The Cambridge Tile Mfg. Co.
1335 S. LaBrea
Los Angeles 19, California

When clients ask, "Which Water System?" Have the answer... at your fingertips!





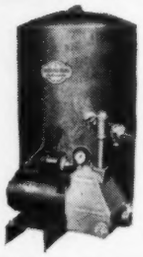
With these three booklets—"How to Plan an Ideal Water System" . . . "Shallow Well Water Systems" . . . and "Deep Well Water Systems"—from Fairbanks-Morse as guides, architects can make authoritative recommendations of water systems of the right capacities, and make provision in building plans for their installation.

The two booklets directly concerned with types of pumps are complete with easy-to-understand charts showing relationship between depths of wells, volume of water wanted, and the right pump for each job.

Advice and information required for special installations — available to all architects without charge.

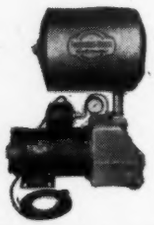
Send for these free booklets. Write Architects Service Bureau, Fairbanks, Morse & Co., 600 S. Michigan Avenue, Chicago 5, Illinois.

See our products in Sweet's Architectural File $\frac{27a}{FA}$ and $\frac{29a}{FA}$

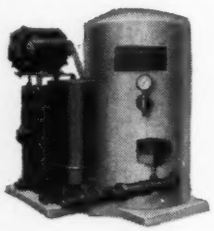


650M42 shallow well pump for depths under 25 feet.

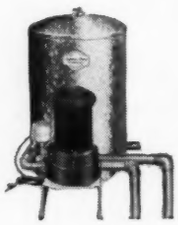
650M14 shallow well pump. Compact. Ideal for utility room or under stairs spaces.



650M3 shallow well pump. For most limited areas of installation.

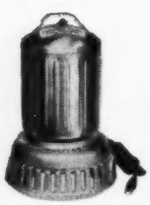


Deep well working heads. For heavy duty and depths to 650 ft.



Convertible ejector pump. For either shallow or deep well service.

425M30 piston type shallow well. Best when pipe lines are long or lift is high.



Submersible cellar drainer. Operates under water. No projections above floor.

Deep well submersible. Most popular deep well unit up to 400 feet depths.

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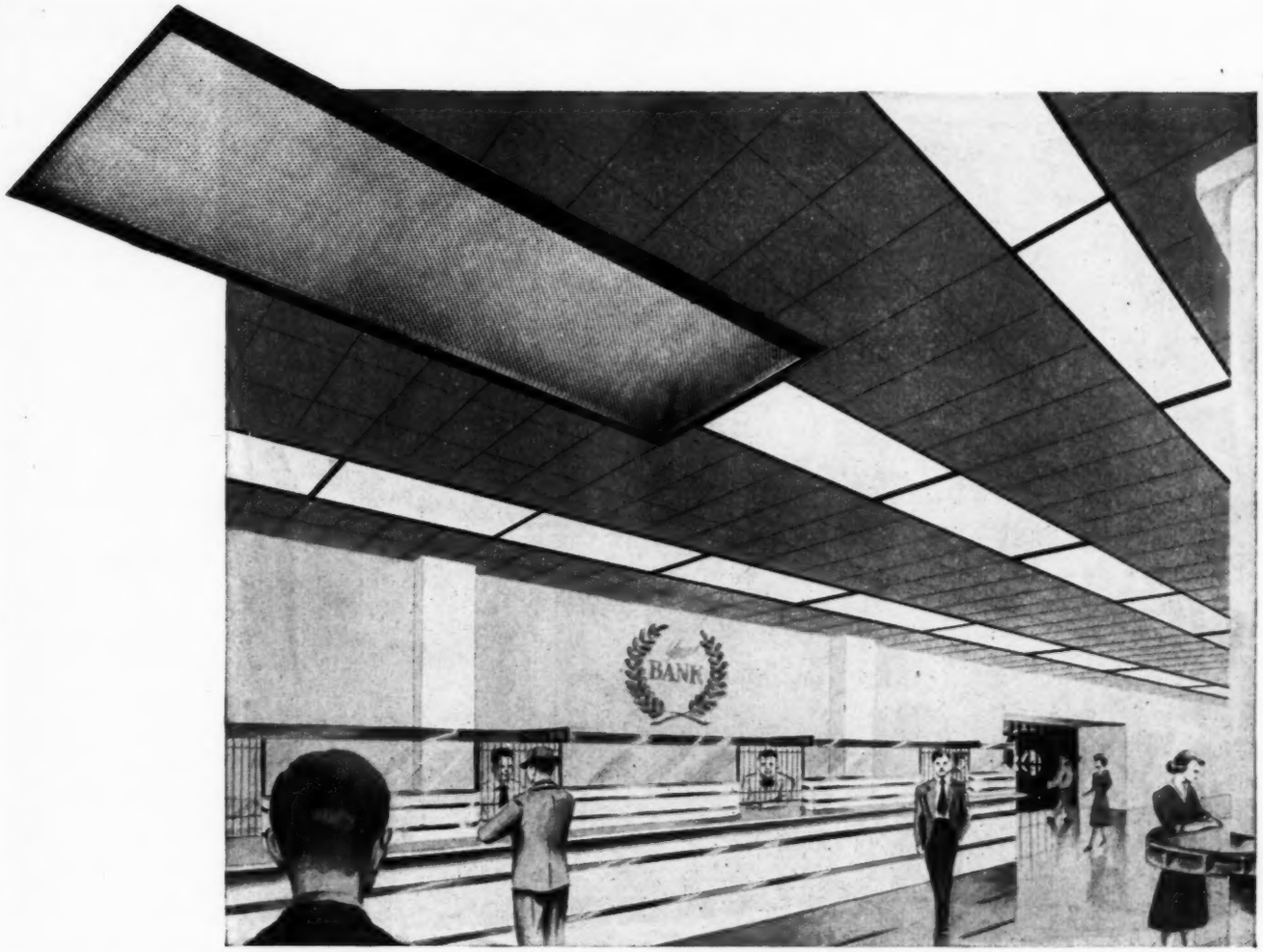
PUMPS • MOTORS • SCALES • DIESEL LOCOMOTIVES AND ENGINES



NEW LIGHTING GLASSWARE

gives you low surface brightness...yet delivers maximum light

Can be cut to your specific dimensions:

Now you can provide schools, banks, general offices and public buildings with a truly low-brightness lightweight lens panel.

A new conception in lighting glassware, Corning's Pattern No. 70 low-brightness lens panel reduces brightness by prismatic action in the glare zones. It provides you with brightness and distribution control in all directions through the uniform configuration of six-sided pyramids.

Equally important, new Pattern No. 70 lens panels deliver the maximum amount of light in the useful zones.

Made from engineered glassware, these panels cannot warp, fade or discolor. They add decor to any installation . . . lighted or unlighted.

Color quality is of the most modern standards, and exceptional light weight assures you easy installation. Smooth surface of glass permits rapid, cost-cutting cleaning and maintenance.

Available in lengths up to 100" and widths to 24", Pattern No. 70 lens panel can be cut to your dimensions, giving you freedom of expression in designing applications. They are particularly adaptable in luminous elements, troffers and fixtures where low surface brightness is required. For full information, send for Corning's new Lighting Sales Bulletin. Simply clip and mail the coupon.

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Firm.....

Address.....

City..... Zone..... State.....

(Continued from page 240)

FURNITURE SHOWROOM RE-DESIGNED

The newly enlarged and re-designed Chicago showroom of the Herman Miller Furniture Co., located in the Merchandise Mart, comprises more than 5700 sq ft. Designed by George Nelson & Assoc., the L-shaped showroom is executed in brilliant hues, forming an effective background to the various displays. A system of movable vertical panels has been used to bring the greatest possible flexibility to the showroom area. The panels, made of plywood, are each 7½-ft high and 3½-ft wide. Held in place by a network of tracks 7½-ft off the floor, the panels are used throughout the showroom as movable, non-supporting dividers and backdrops for furniture groupings. Colors of the panels include red, magenta, intense orange, chrome yellow, turquoise, purple, gold and ultramarine blue. At the midway mark toward the rear of the showroom is a glass-walled column, 2-ft square and 7½-ft high. Actually an aquarium, the column holds tropical fish and water plants, and is lighted from above. Leading from this focal point in the room is the entrance to the planning section, where wallpaper and fabric samples are displayed. Toward the rear of the showroom are the office facilities and employees' kitchen, dining and seating area. Herman Miller Furniture Co., Zeeland, Mich.

Corner of re-designed showroom

FLOOR COVERINGS

Sixty-seven new patterns and colorings, including two completely new types of tile and the first pattern goods offered in an inlaid plastic flooring, have been added to the *Armstrong* floor and wall covering lines for Fall. Sixteen of the new patterns are in linoleum, 21 in plastic and linoleum tile, six in "Corlon" sheet goods, two in "Vinoflor," six in "Quaker Wall Covering," seven in "Quaker Rugs" and nine in "Quaker Floor Covering."

The two new types of tile are "Custom Corlon Tile" and "Excelon Tile." The first of these is a vinyl tile with smooth surface and directional burl graining. It is said to be superior to rubber tile in wearing qualities and equal to rubber tile in indentation resistance. It has high grease, solvent and abrasion resistance, and can be installed over on-grade concrete with chemical-set waterproof cement, as well as over suspended subfloors with paste or waterproof cement. It is made in 3/32-in. gauge, in tiles 6 by 6-in., 9 by 9-in., 12 by 12-in. and 18 by 36-in., and will be available in nine introductory colors. "Excelon Tile" is a plastic-asbestos material containing vinyl. It is said to be completely alkali-resistant and reportedly supplements the versatility of asphalt tile in that it is ideal for below-grade or suspended subfloor installation. It is

(Continued on page 248)

Masonite Siding graces the exterior of "The Patrician," one of the newer models offered by world-famous National Homes Corporation.

Welcomed! more and more homes now built

WITH MASONITE SIDING

It's the talk of the home-building field! It's proving itself in all sections of the country! It's that new Packaged Presdwood® product—Masonite Siding.

Why the excitement? Several very good reasons.

Take the matter of cost. Masonite Siding is very much in line with conventional materials. And, because every square inch is usable (no knots or grain), because it goes on faster, and because it takes less painting time and material—you can count on some mighty important savings overall.

Appearance? Masonite Siding has all the good looks you want—and then some. Comes in 3 widths: conventional 12″, wider 16″ and extra-wide 24″. No premium on the wider widths. True-cut lengths of 8′ and longer. In 5/16″ and 1/4″ thicknesses. A splendid material for your board and batten designs.

This all-wood hardboard is really rugged! Takes all kinds of rough weather without flinching. Resists small children and baseballs. Won't split, splinter or crack. Won't rot or corrode. Won't push nails out.

We'll be glad to give you the whole story, including specification data. Just send the coupon.

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"Masonite" signifies that Masonite Corporation is the source of the product

better hardboards for better buildings

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Marine Hospital

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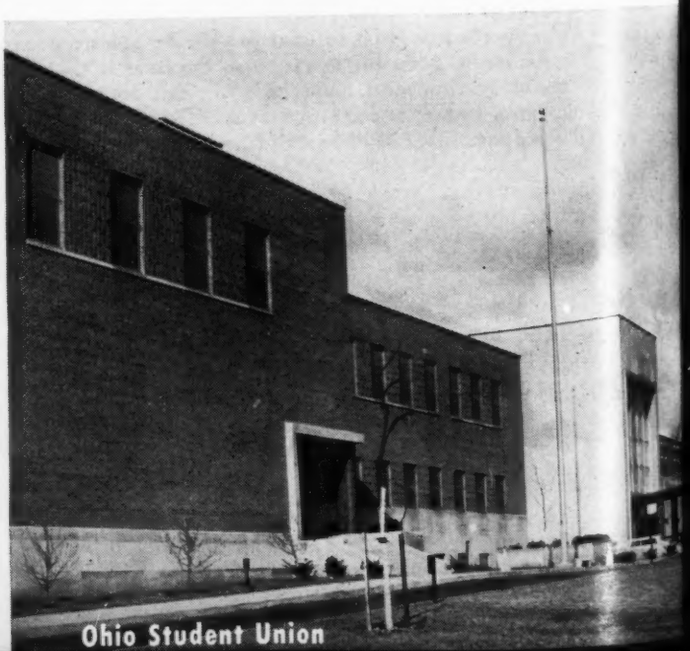
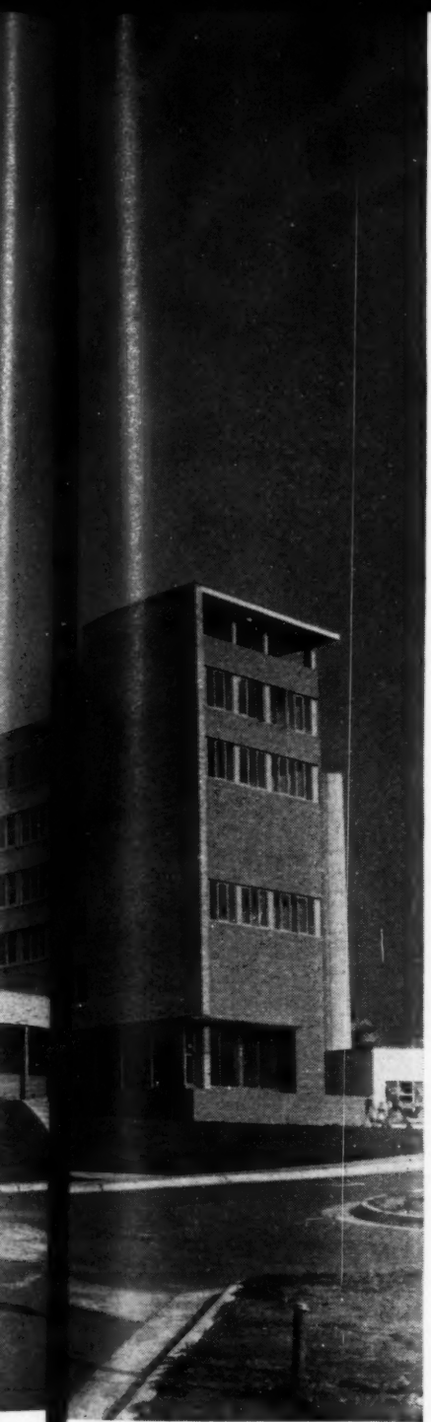


Ohio Student Union



Phoenix Airport

QUALITY PANELBOARDS

can save your clients a million minutes an hour

Power outages may be of only a few minutes' duration. But they occur often, unpredictably, and at inconvenient times. Multiplied a thousandfold every hour in plants, office buildings—everywhere—the penalty is untold waste. The worst of it is, most outages are avoidable or unnecessarily prolonged.

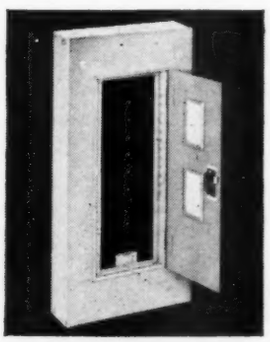
You can give your clients the profit or service protection they look to you for. Westinghouse De-ion® Circuit Breaker Panelboard specifications assure modern electrical capacity and protection.

Quick-make, quick-break circuit breakers ride out temporary or harmless overloads—don't cut power needlessly. They save on maintenance, too—no fuses to replace. Simply a flip of the handle will restore power. Dangers from over- or under-fusing are gone forever.

Westinghouse Panelboards serve in buildings of any size or type, such as shown here. Be sure—specify Westinghouse. And remember, for every new school built today, there are 10 others that need electrical modernization; for every new commercial building, 50 are electrically outdated.

In addition, a Westinghouse specification offers quality panel construction and an engineered job throughout.

For expert assistance, ask for an application engineer. Talk to your Westinghouse Representative about this, or write for B-5260-A, *"Panelboard Planning"*, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-93511



WESTINGHOUSE QUALITY PROTECTS REPUTATIONS, TOO

YOU CAN BE **SURE**...IF IT'S

Westinghouse

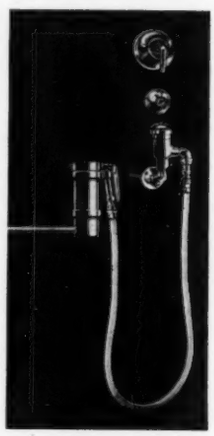
A-E PRODUCTS

(Continued from page 244)

stronger than asphalt tile and is exceptionally resistant to grease and wear. It is made in one gauge: ⅛-in. and one size, 9 by 9-in. It will be available in 10 introductory colors. Armstrong Cork Co., Lancaster, Pa.

BUILT-IN BED PAN CLEANER

Designed for the convenience of hospital nurses, a new built-in *Symmons Bed Pan Cleaner* has been developed to simplify a difficult task. It employs a mixing valve that requires the use of only one of the operator's hands for positive and instant adjustment to the desired temperature. An insulated flow-control nozzle prevents the unit's becoming too hot to the touch. Operation is described as simple. The nurse can obtain any desired flow rate by merely depressing the lever to control the flow. The unit is available as a package, complete with mixing valve, built-in stops, discharge stop, vacuum breaker, rubber hose with connectors and an insulated aerated nozzle available with or without flow control lever. Symmons Engineering Co., 791 Tremont St., Boston 18, Mass.



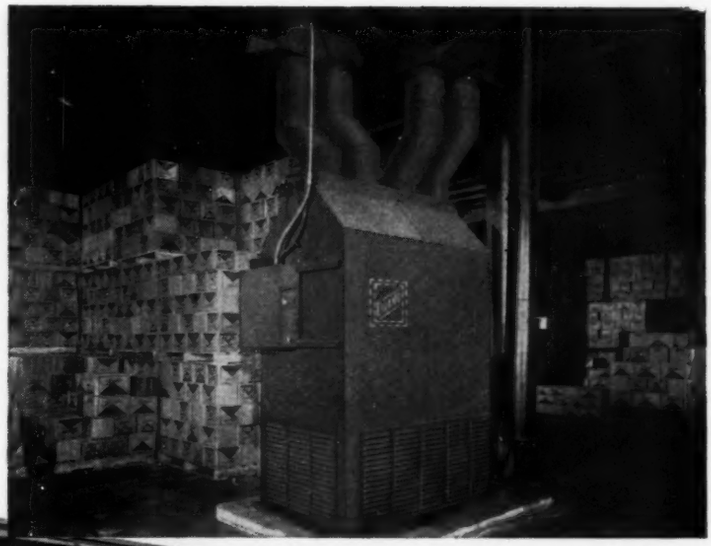
Operated with only one hand, built-in bed pan cleaner adjusts easily to desired water temperature and flow

CIRCULAR DIFFUSERS

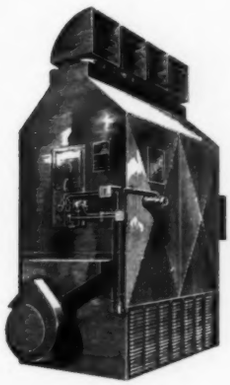
A new series of *Carnes* Model E circular ceiling diffusers has been introduced and is now available in sizes from five through 32 in. The new units are

(Continued on page 252)

Here's why Libby, McNeill & Libby chose..... DRAVO *Counterflo* SPACE HEATERS again for their 10 acre Hammond Warehouse



Food cartons at Libby, McNeill & Libby are stacked almost to ceiling level. Dravo Heaters were modified with sheet-metal extensions to raise discharge nozzles above stack level.



When Libby, McNeill & Libby acquired an existing warehouse at Hammond, Indiana, for use as a huge food-order assembly warehouse, a complete new heating system had to be installed. These were the problems Libby faced:

1. **Providing low-cost comfort heat and air conditioning throughout a 426,000 sq. ft. building area.**
2. **Preventing food from freezing in sub-zero weather.**
3. **Eliminating year-around dampness and humidity which caused rust on cans, loss of labels and carton damage.**

Based on previous experience with Dravo *Counterflo* Space Heaters in its other warehouses, Libby installed 30 Dravo Heaters in this building to overcome these problems. This is why Libby chose Dravo:

VERSATILITY—Dravo Heaters provide comfort heat and box-car de-icing in winter, summer-time ventilation and effective humidity control the year around for three-shift, 24-hour operations. Each heater operates independently and services its own area.

ECONOMY—Dravo Heaters' maximum air throw eliminated the need for ductwork except for several short runs, thus kept installation costs low. The Dravo recirculation system keeps roof-heat losses at a minimum; maintenance costs have been negligible.

EFFICIENCY—Dravo Heaters' automatic thermostat control maintains a uniform warm temperature throughout the warehouse in winter; no regular attendant is needed. Forced air ventilation removes humidity and eliminates food spoilage and packaging damage.

You, too, can benefit by installing Dravo *Counterflo* Space Heaters in your industrial or commercial building. Write today to obtain more information about low-cost, efficient heating for your business. *Use the coupon.*

DRAVO

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Dravo Building, Fifth and Liberty Avenues
Pittsburgh 22, Pennsylvania

DRAVO

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- ☐ Space heating industrial buildings, warehouses, garages, hangars.
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- ☐ For use in conjunction with air conditioning.
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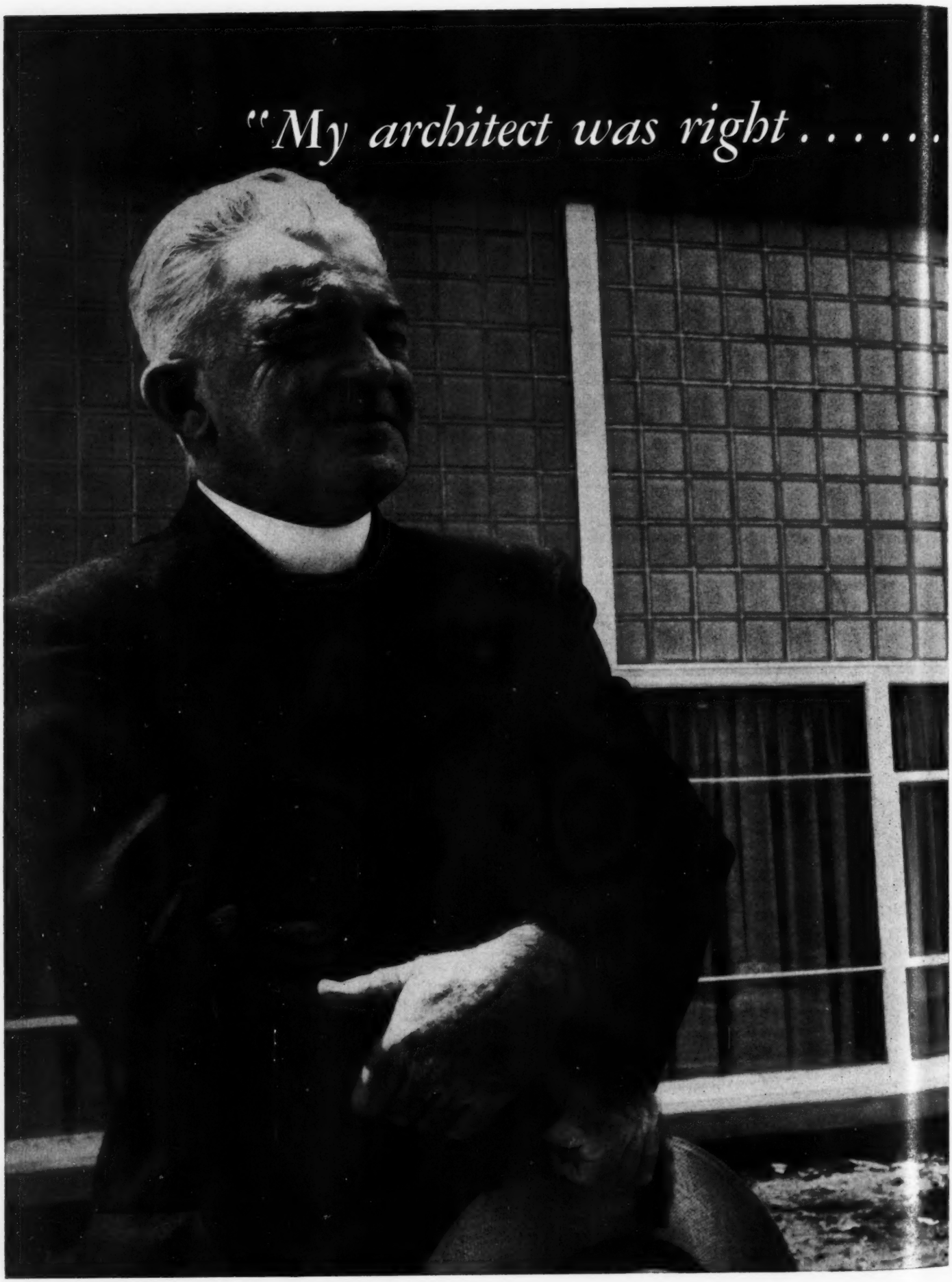

"My architect was right . . . . . .

. . PC Glass Blocks give ideal daylighting,"

says Reverend John A. McSweeney, Pastor, Our Lady of Monadnock Academy, East Jaffrey, N. H.

• Without question, this is one of the most attractive and useful schools ever constructed. It was built in 1951 for a cubic foot cost of only 82¢.

Reverend McSweeney says, "Our Teachers think this is the finest building they ever taught in because of the excellent light characteristics of the glass block panels. During a long, cold New Hampshire winter, our classrooms were extremely comfortable because the glass blocks are such good insulators. Reduced heating cost is one thing we can count on.

"Maintenance of the glass blocks is obviously not going to be a problem. We expect to hose them down once, maybe twice a year."

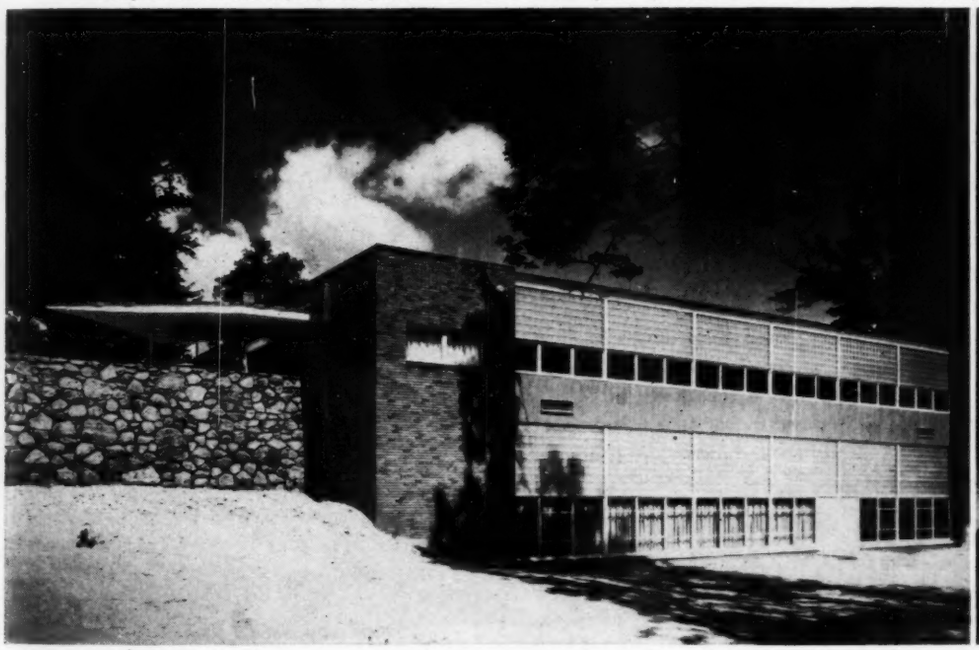
Be sure *you* know the PC Glass Block story before you build or remodel your next school. No other building product will give your client so much for his money.

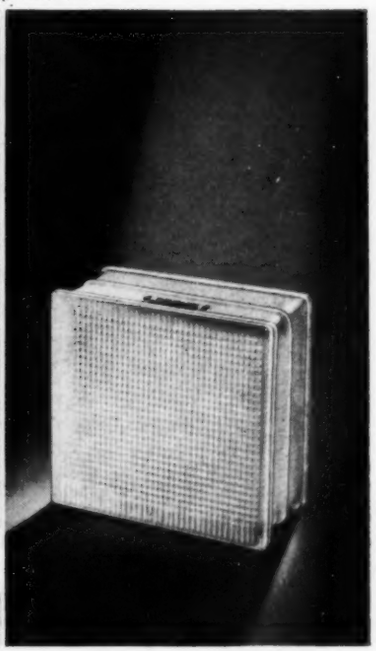
Send the coupon for more information.

Pittsburgh Corning Corporation

PITTSBURGH, PA.

Perley F. Gilbert Associates, Inc., Lowell, Mass. Herbert H. Glassman, A. I. A., *Chief Architect.* Edmund E. McMahon, *Project Architect.*





Here's what you get with PC Glass Blocks

BETTER DAYLIGHTING — Functional patterns direct daylight to reflective ceiling, or distribute it uniformly throughout the room.

REDUCED HEATING & COOLING COSTS—Glass block panels have insulating efficiency of 8-inch masonry wall.

LOWER WINDOW MAINTENANCE COSTS—Glass block panels seldom have to be washed. Breakage is rare. There is nothing to paint.

NO "EXTRA" EXPENSE—Unlike conventional windows, panels of PC Functional Glass Blocks seldom if ever need expensive shades, blinds or louvres.

NO DIRT INFILTRATION — A glass block panel is an integral part of your building wall. Tight mortar joints seal out moisture, dirt.

LESS OUTSIDE NOISE — PC Glass Blocks are hollow. Internal dead air spaces reduce sound transmission.

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Without obligation on my part, please send me your FREE booklet on the use of PC Glass Blocks in public, commercial and industrial structures.

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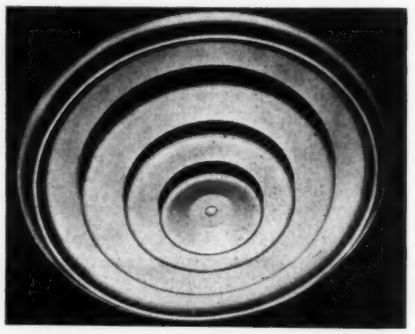
City ..... Zone... State.....

A-E PRODUCTS

(Continued from page 248)

described as embodying the same characteristics of easy installation and simple adjustment found in previous models.

The series offers three identically styled models, to assure harmonious appearance when it is necessary to use more than one model in the same common location. Each size diffuser contains the same number of cones, to afford uniform appearance when various sizes are installed in the same area. The "Model E" is a fixed cone diffuser in which the



New diffusers are available in five sizes, three different models

cone assembly can be set in any one of three positions to secure a horizontal, vertical or intermediate air pattern. It can either be ordered from the factory set in any of these patterns or easily changed in the field. The "Model EJ" diffuser is a completely adjustable supply unit where any desired air pattern from horizontal to vertical can be easily and quickly obtained by simply rotating the small center plate. "Model ER" is a combination supply and exhaust diffuser to be used when it is desirable to bring in supply air and exhaust room air from the same location. The air pattern is set to minimize the danger of short circuiting the supply air. A full range of accessories such as volume controls, equalizing deflectors, anti-smudge rings, etc., is available for all sizes. W. R. Carnes Co., S. Main St., Verona, Wis.

INSULATING GLASS

After many years of research, Libbey-Owens-Ford has developed a new *Glass Seal Thermopane* insulating window unit.

(Continued on page 257)


Now...set fastening studs wherever they're needed
MODEL 450 REMINGTON STUD DRIVER
Here's new economy . . . new speed in construction fastening! The Remington Stud Driver joins wood or steel sections to concrete or steel surfaces in seconds . . . easily sets as high as 5 studs a minute. Powerful 32 caliber charges drive studs arrow-straight. The tool's light weight—only 5½ pounds—simplifies handling wherever studs are needed.
New guards for specific uses now make the self-powered Remington Stud Driver more versatile than ever. These attachments take all the guesswork out of stud location . . . assure fast, accurate fastening for every job. Illustrated are just 4 of these special guards. For full information about the complete line and about the Remington Stud Driver, send the coupon below.
A complete line of guards for special applications
Guard for Structural Channel
Guard for Switch, Utility and Outlet Boxes
Guard for "Unistrut" Sections
Guard for Conduit Clips
Listed & Approved by Underwriters' Laboratories, Inc.
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Please send me my free copies of the new booklets showing how I can cut my fastening costs.
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"If It's Remington—It's Right!"
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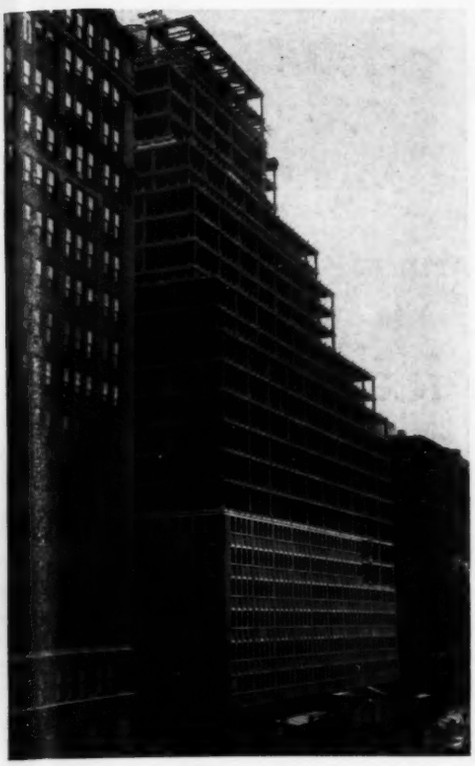
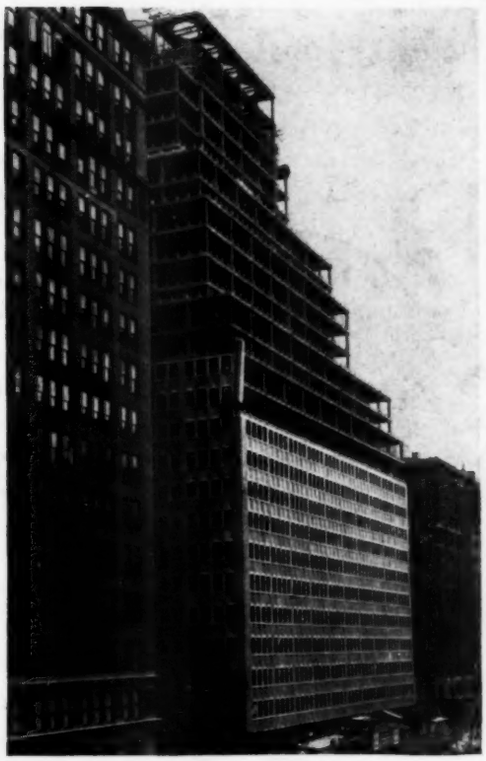
DUPONT

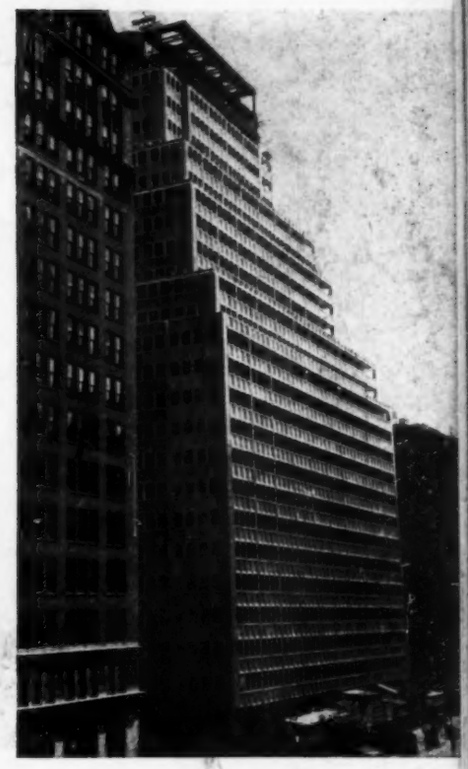

TUESDAY



WEDNESDAY



THURSDAY



MONDAY

26-story Skyscraper clad in Alcoa Aluminum in 6½ days!

Building—Tishman Building, 99 Park Avenue, N. Y., N. Y.

Owner—Tishman Realty & Construction Company, Inc.

Architect—Emery Roth & Sons

General Contractor—Tishman Realty Corporation

Subcontractor on Aluminum—General Bronze Corporation

The entire job of erecting the outside walls of this 26-story office building was done in 6½ working days. The conventional masonry construction originally planned would have taken eight weeks or longer. Alcoa helped develop the materials and the methods which made this record possible.

The first plans of the $14,000,000 structure being erected by Tishman Realty & Construction Company, Inc., were redrawn as a result of careful study of the Alcoa Building. The pioneer use of aluminum curtain-wall construction in the Pittsburgh headquarters of the Aluminum Company of America forecast the building economies dramatically proved by this walls-in-a-week record.

The 1800 exterior panels were prefabricated, each complete with two windows, by General Bronze Corp. within a period of three months—two stories high and over 4½ feet wide, they were trucked from the assembly line to the building and stored on the floor they were to enclose. Three crews installed the panels from inside the building without the use of exterior scaffolding.

The economies of modular, curtain-wall construction with lightweight, low-maintenance aluminum panels are available to you for new construction or modernization of existing buildings. A phone call to your local Alcoa sales office, listed in your classified directory under "Aluminum", can acquaint you with full details. Make the call today. Or write: Aluminum Company of America, 1888-K Alcoa Building, Pittsburgh 19, Pennsylvania.

Alcoa Aluminum

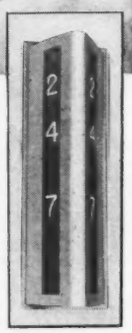
ALUMINUM COMPANY OF AMERICA

Early American Paging System

When the Indian maid of yesterday had a particular brave in mind, she used a unique method of paging him. Sometimes it worked, too!

Today's business girl gets her man in a much faster, more dependable way . . . one that *always* works! She simply flashes his number through the Edwards Executive Paging System to all corners of the plant. The wanted man can't fail to see and hear his signal. 209 others can be coded on the same signal board.

What's your particular problem? Whether large or small, simple or complex, whether it calls for paging 2000 or 20 men, you can depend on Edwards to solve it.
Edwards Company, Inc.
Dept. AR-10, Norwalk, Conn.



Edwards Has the Answer to Your Paging Problem

Whether the silent paging system pictured here or the low-cost audible Lokator® these systems enable the switchboard operator to quickly find an executive anywhere in your plant or office.

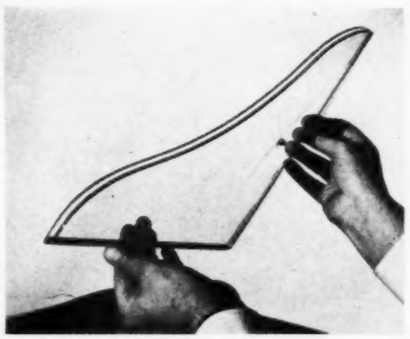
EDWARDS *protects...everywhere!*

with equipment for SCHOOLS • HOSPITALS • HOMES • INDUSTRY

A-E PRODUCTS

(Continued from page 252)

The new unit will be manufactured in the smaller standard sizes, beginning with the 45½ by 25½-in. size now popular in the panel awning type of window. Made of double strength high quality window glass with an air space of 3/16-in. between the lights, the material will be blended into a smooth, fire-polished edge. This edge makes the unit



Insulated window material has 3/16-in. air space between the lights

easy to glaze with weathertight seal into the many types of standard-size wood and metal sash now manufactured for "Thermopane" glazing. During manufacture, the air between the two panes of glass is completely withdrawn and replaced by clean, dry air so as to minimize condensation in the air space under changing temperature conditions. Libbey-Owens-Ford Glass Co., Nicholas Bldg., Toledo 3, Ohio.

REDWOOD COLOR PRESERVATIVE

A new product designed to retain the natural kiln-dried appearance of redwood has recently been marketed. Known as *Dry-Redwood Liquid Raw-Hide Color-Fix #9*, the product reportedly will not change the color of the wood. Application consists of one coat of the "Color-Fix" followed by one or more coats of the manufacturer's "Raw-Hide" clear finish. The number of coats of the clear finish is dependent on the climatic condition to which the redwood is to be subjected. Interiors take but one coat, while exteriors should have two or more coats. Linseed Oil Products Co., 1107 S. Fremont Ave., Alhambra, Calif.

(Continued on page 260)

NEW TRANE BASEBOARD CONVECTOR

looks better...

New comfort and new beauty with the new

The Trane Company, La Crosse, Wis. • East. Mfg. Div., Scranton, Penn.

performs better–7 ways

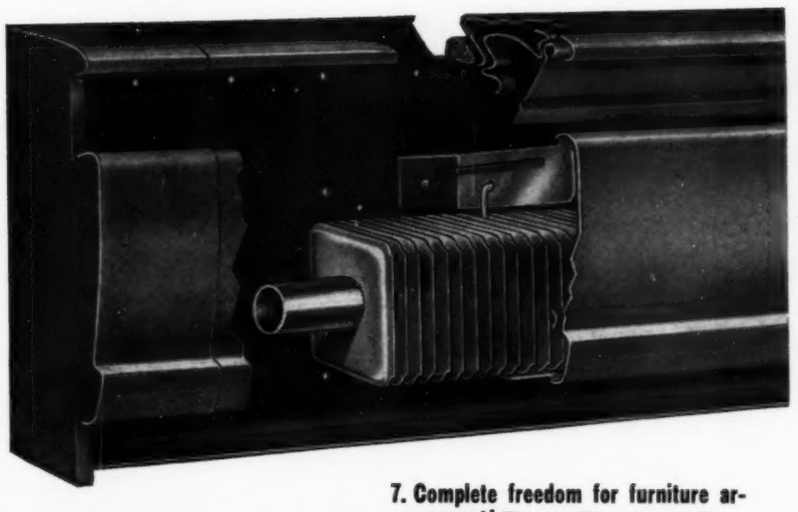
1. Improved design that matches (never mars) the beauty of the modern home. Your clients can paint it to match the walls . . . hang draperies or curtains with complete freedom.

2. Continuous front opening directs a moving blanket of heat out and away from the wall . . . blocks every inch of wall and window draft.

3. Designed to end noise! Free-hanging fin-and-tube heating element moves freely with expansion. No ducts to carry noise.

4. Helps homes stay clean longer! Full-length rubber strip seals back plate to the wall, prevents dirt seepage. Coved bottom, smooth top make cleaning easy. No dust-trapping grillwork.

5. Heats faster at no extra cost! Famous TRANE copper and aluminum fin-and-tube heating element responds extra fast, keeps heat uniform. No fuel wasted on long warm-up and cool-off periods.

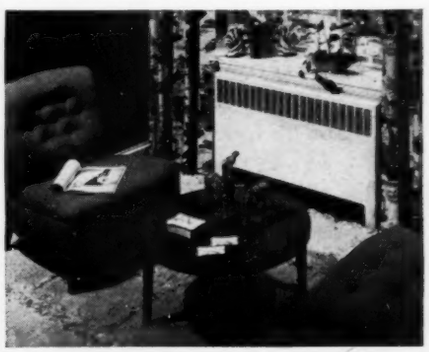


6. Simple, snap-together installation saves labor, money! Basic parts arrive assembled. No special tools needed, no complicated fitting . . . saves hours per job.

7. Complete freedom for furniture arrangement! TRANE Baseboard Convector is part of the wall, projects only 2¾" . . . recessed, only 1½". No hot blasts or scorching surfaces to force the dweller or his furniture out of place.

NOW! 3 TRANE FINNED RADIATION PRODUCTS BRING NEW HEATING EFFICIENCY

New TRANE Baseboard Convector surrounds the occupants with even, all-over heat. Blocks every inch of downdraft with a wall of moving warm air. Yet no hot blasts of air or scorching surfaces. You can touch it anytime.



TRANE Standard Convectors offer a design for every application—anywhere. Ten distinct cabinet styles for floor, wall and under-the-window application. You can choose free-standing, semi-recessed or completely hidden units.

TRANE Wall-Fin Heater can be fitted with cabinets to heat long walls and window areas in offices, institutions and industrial plants. Single or tiered fin-and-tube elements. Available also with economical expanded grilles.

TRANE Baseboard Convector

For complete TRANE Baseboard Convector data, write for bulletin DS-381.

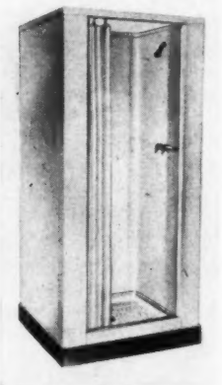
Trane Co. of Canada, Ltd., Toronto • 87 U. S. and 14 Canadian Offices

A|E PRODUCTS

(Continued from page 257)

PRECAST RECEPTORS

A new *Fiat* packaged shower cabinet, the "Cadet," is reported to incorporate design and assembly features new in the packaged shower field. The cabinet can be installed quickly and easily, and is said to be completely leakproof. It has smooth cover corners, hollow stiles and a new threshold that is completely enclosed. The entire construction has been designed so that there are no raw edges or hard-to-clean dirt pockets anywhere. The cabinet may also be readily built-in through the use of an escutcheon type adapter frame and a rigid one-piece slip-on top. The top comes complete with dome light. A precast terrazzo receptor is included with the shower. 11 pp. illus., Fiat Metal Mfg. Co., 9301 Belmont Ave., Franklin Park, Ill.



Packaged shower cabinet has new design and assembly features

GLASS FIBER INSECT SCREEN

Combining resistance to rust, corrosion and weathering; fire safety, permanent color and high impact strength, a new *Fiberglas* insect screen has recently been developed. Woven of vinyl-coated "Fiberglas" yarns, the screen is reported to have exceptional dimensional stability, showing virtually no shrinkage or stretching under temperature extremes or excessive moisture. The screen never needs painting, will not stain window sills or frames. The color dispersed through the yarn's vinyl coating is said to be permanent. Weave of the

(Continued on page 264)

WORLD'S SMALLEST COMPLETE KITCHEN!

ONLY 27½ INCHES WIDE!

Perfect For
MOTELS HOTELS
APARTMENTS
OFFICES FACTORIES
INSTITUTIONS
SMALL KITCHENS
TRAILERS
PATIOS

General Chef complete kitchen units fit in 5.4 square feet.
The ideal solution wherever space and dollars are important.

SINK One-piece porcelain top of heavy gauge steel. Faucets and all hardware triple-chrome plated. Units also available without sink.

BURNERS Units come with 3 gas burners (easily adjusted for bottled, natural or manufactured [L. P.] gas), or 3 electric burners (220 V.) or 2 (110 V.).

REFRIGERATOR Four cubic feet of space. *Electric* (sealed, self-oiling Tecumseh unit). Owens-Corning Fiberglas insulation. Convenient bottle shelf in door.

FREEZER Holds 9 ice cube trays, or 12 standard frozen food packages.

STORAGE DRAWER Ample storage space for pots and pans.

5 YEAR GUARANTEE
Every General Chef Unit is guaranteed in writing to give trouble-free service for 5 years!

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WRITE for complete information and specifications if you are building, remodeling, designing — you will be interested in the space and money you can save with General Chef units. Several models are available. Fully guaranteed. WRITE TODAY for complete information and specifications on all General Chef units. We will also send you name and address of distributor nearest you.

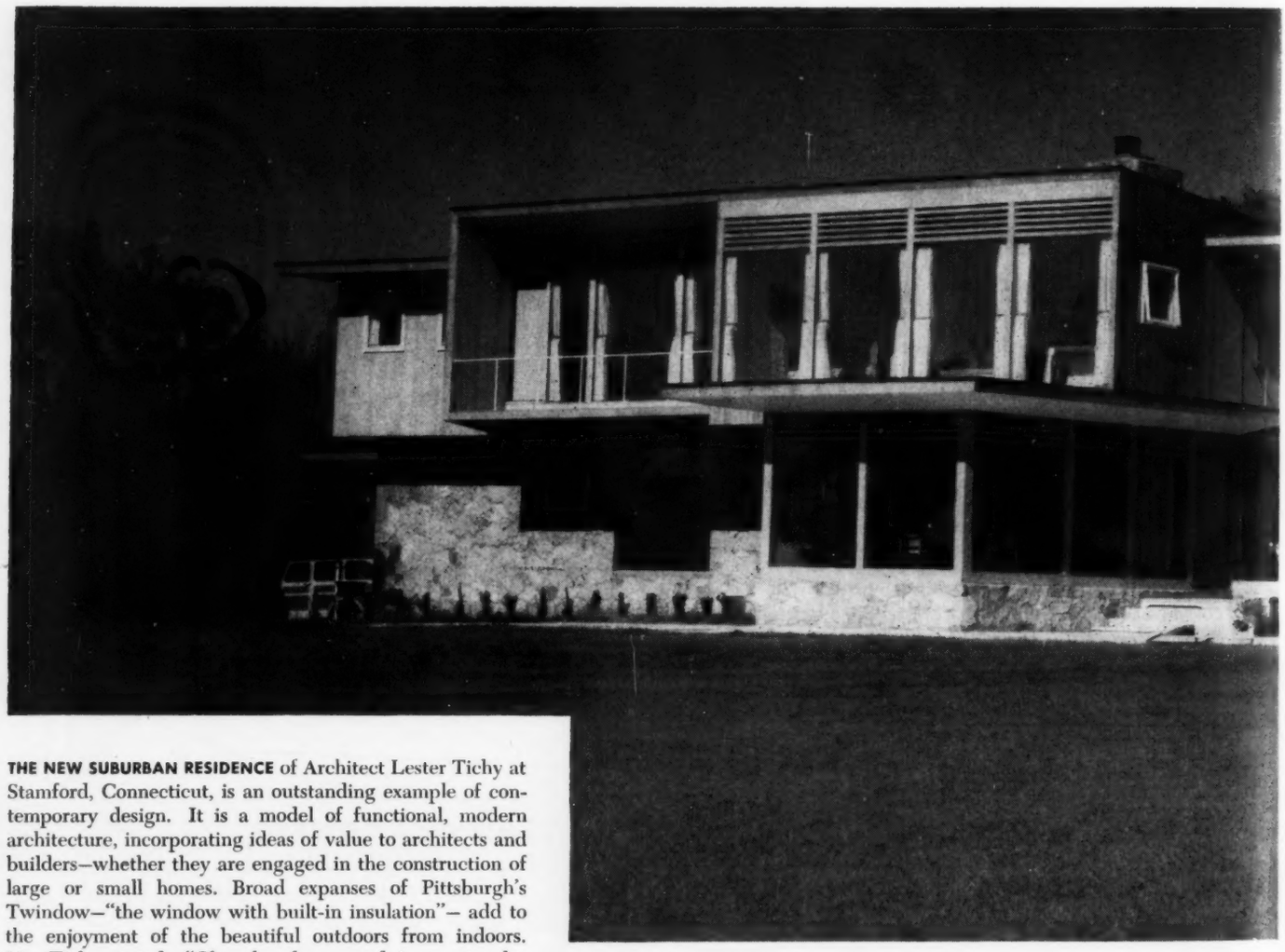
GENERAL CHEF, Dept. D, 4536 E. Dunham Street, Los Angeles 23, Calif.
Please send me complete information and specifications on General Chef units, and name of nearest distributor.

NAME_____ STREET & NUMBER_____

CITY_____ ZONE_____ STATE_____

The Tichy Estate

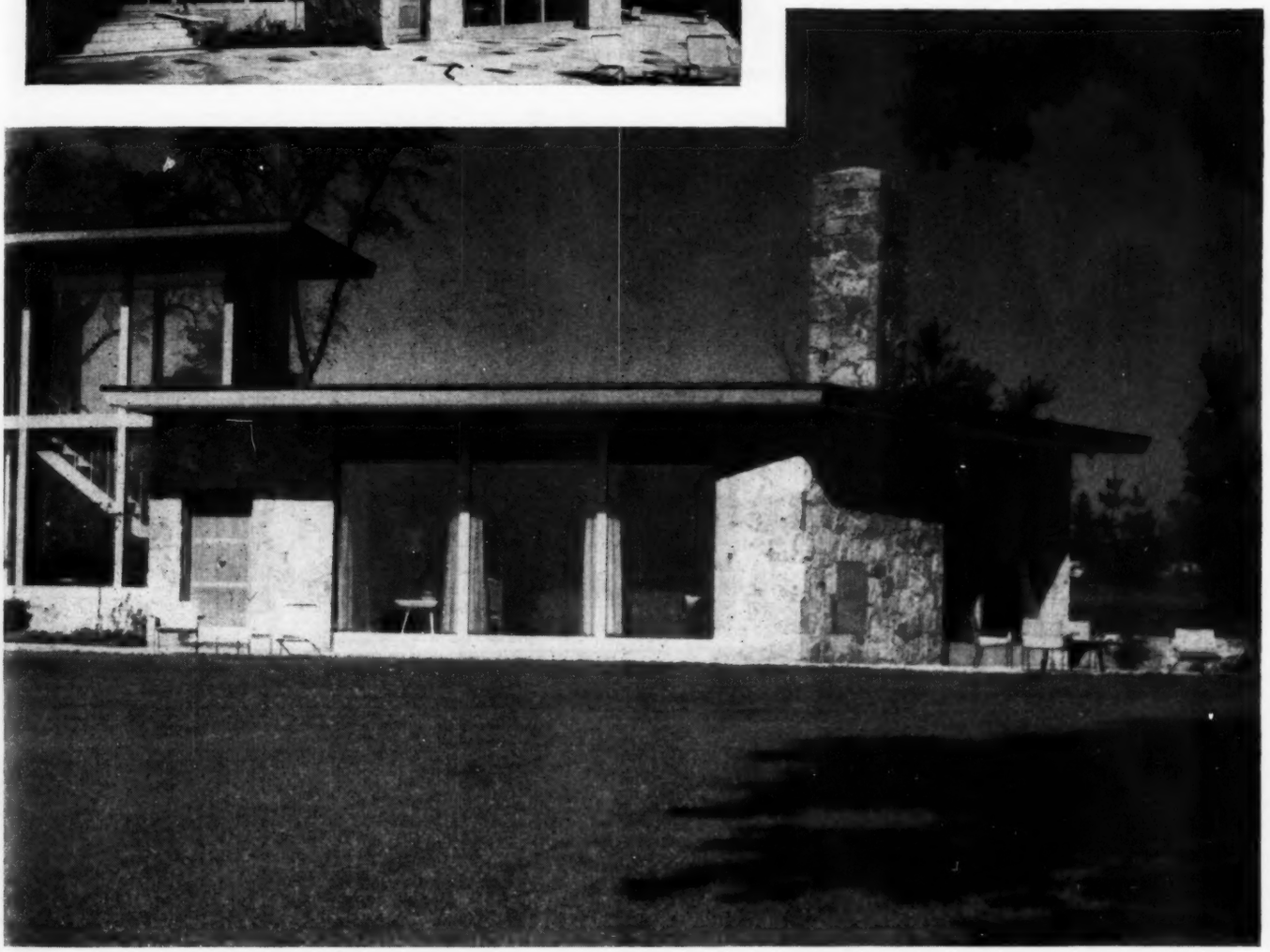
underscores the dominant role of glass in contemporary architecture



THE NEW SUBURBAN RESIDENCE of Architect Lester Tichy at Stamford, Connecticut, is an outstanding example of contemporary design. It is a model of functional, modern architecture, incorporating ideas of value to architects and builders—whether they are engaged in the construction of large or small homes. Broad expanses of Pittsburgh's Twindow—"the window with built-in insulation"— add to the enjoyment of the beautiful outdoors from indoors. Mr. Tichy stated: "Glass has been used in spectacular fashion, not only for its functional value, but for startling and beautiful texture contrast with the other construction materials."

IN THE DINING ROOM, too, large areas of Twindow units increase the spaciousness of the room, frame the attractive patio and wooded countryside for year-around pleasure. These Twindow double-glazed units offer all the advantages of broad expanses of glass, without affecting heating efficiency. They minimize downdrafts near windows and reduce the tendency for condensation to form.

A STRIKING FEATURE of this house is the hall and suspended stairway, connecting the living room with the rest of the building. Both sides of the stairhall are completely enclosed by Twindow units. The spacious living room, shown at right, also utilizes floor-to-ceiling Twindow units, affording a pleasant view winter and summer.



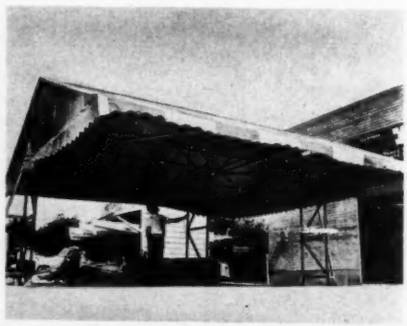
A-E PRODUCTS

(Continued from page 260)

screen is heatset, producing a firm, uniform mesh. The material is easy to cut with ordinary scissors, without raveling, and is easily framed. The screen is being produced in gray and green and in standard meshes and widths, and will be competitive in price with aluminum and bronze screen. Owens-Corning Fiberglas Corp., 16 E. 56th St., New York 22, N. Y.

TENT FRAME CONSTRUCTION

A recently developed low cost tent frame structure, designed primarily as a car shelter where seat covers, tires or other automotive accessories can be installed, can be adapted to a variety of other useful applications. Built with *Unistrut* steel channel and fittings, the



Low-cost structure is adaptable to both permanent and temporary installations, is easily erected

tent frame can be erected quickly and easily by merely bolting the framing members together. A hacksaw and wrench are the only tools needed. Loosening of bolts at points of connection permits rapid dismantling for winter storage. The structure is said to be particularly adaptable to commercial applications such as gasoline service stations, food stands, outdoor theatres and restaurants, fairs, etc. It is reported to have wide possibilities around the home for carports, or garden tool and equipment shelters, entrance canopies, etc. The installation can easily be made permanent by substituting aluminum, asbestos sheeting or other roofing materials for the canvas cover. Unistrut Products Co., Chicago 7, Ill.

(Continued on page 268)

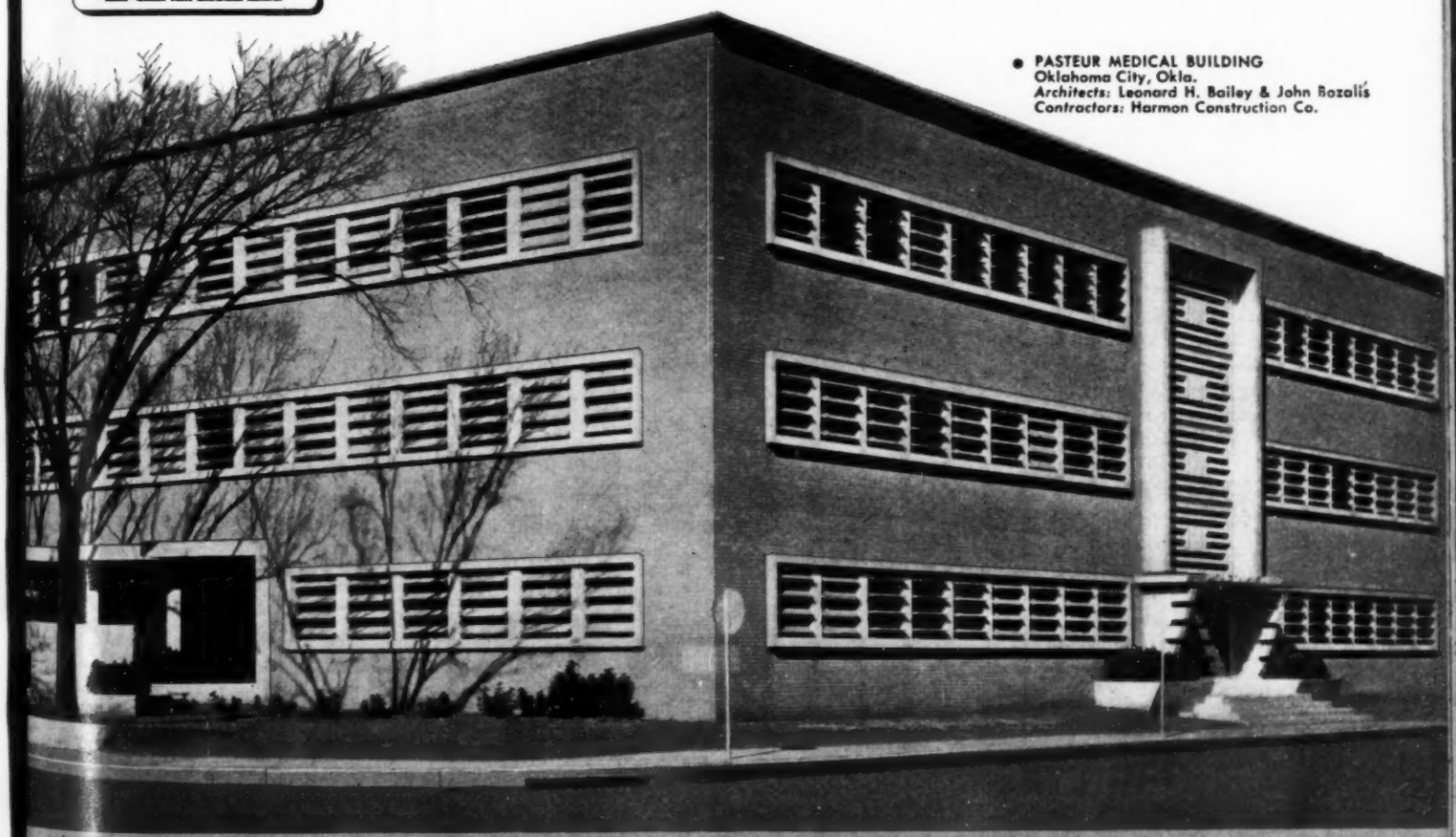
aluminum WINDOWS *by* GENERAL BRONZE

● Hospitals and medical buildings, like the one pictured here, require windows that are easy to operate, give controlled ventilation and are easy on the annual maintenance budget. Aluminum windows by General Bronze satisfy all these requirements and satisfy them well.

With a background of more than 40 years of practical experience, General Bronze is in an excellent position to help in solving your problems as they pertain to windows, spandrels, curtain walls and architectural metalwork.

During these many years we have worked closely with hundreds of leading architects on both large and small building projects—hospitals, schools, apartments, commercial and monumental buildings. We know what kind of help architects appreciate most—what makes their job run easier and smoother.

Because of our unequalled facilities and our vast experience, we are well qualified to serve you, especially when your requirements are complex or unusual. We will be glad to discuss your problems with you at any time. Our Catalogs are filed in Sweet's.

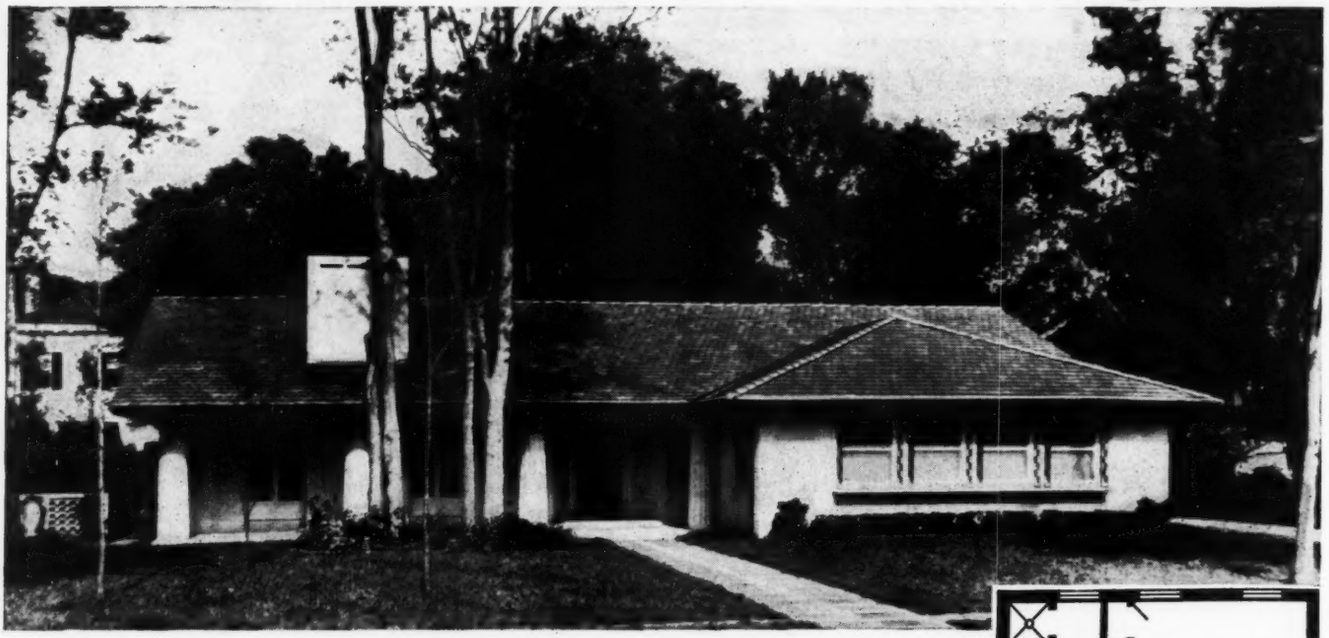


● PASTEUR MEDICAL BUILDING
Oklahoma City, Okla.
Architects: Leonard H. Bailey & John Bozalis
Contractors: Harmon Construction Co.

GENERAL BRONZE CORPORATION • GARDEN CITY, N. Y.

PERMATITE DIVISION—Custom-built Windows, Architectural Metal Work and Revolving Doors. ALWINTITE DIVISION—Residential Aluminum Windows.
BRACH MFG. CO. DIVISION—Multal, T. V., Radio and Electronic Equipment STEEL WELDMENTS, INC. DIVISION—Custom fabrication in steel and iron.

Designer-builder tells why he



FROM THE STREET, size of this home is deceptive. Containing approximately 3000 square feet of floor area, it is definitely a large house, yet scale of rooms and plan proportions serve to minimize apparent size and emphasize livability.

TYPE OF HOME: Basementless, seven-room, ranch home.

LOCATION: Outskirts of New Orleans, Louisiana.

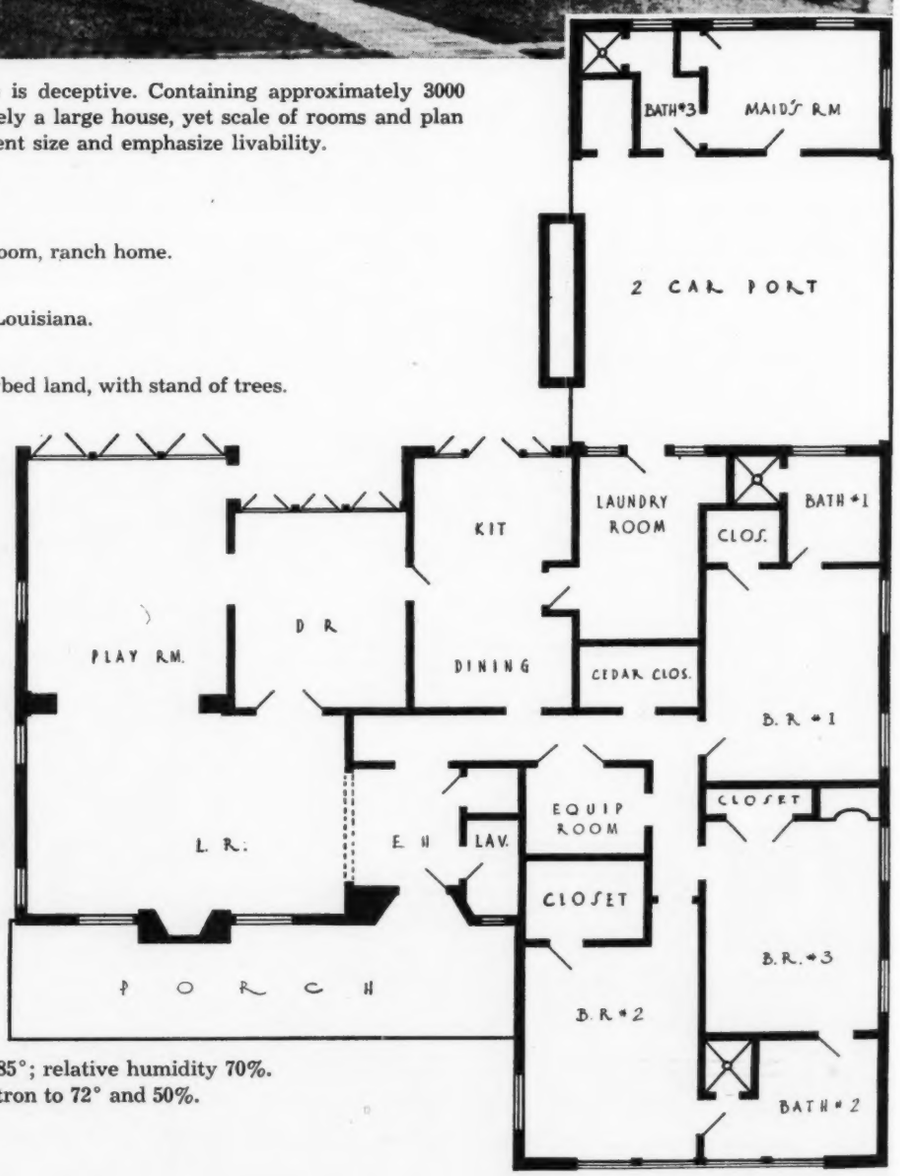
DESCRIPTION OF LOT: Level, undisturbed land, with stand of trees.

FLOOR PLAN:

Over-all dimensions – 70′ x 90′; L-shaped; living space equivalent to conventional eight-room home. Note: extra-large closets including centrally located walk-in cedar closet; built-in desk in bedroom #3; how utility room is boxed in yet easily accessible for maintenance.

CONSTRUCTION DETAILS:

Exterior walls are brick; interior walls are finished with ⅞″ plaster. House structure is built on a 5″ reinforced concrete slab, sand-filled with 4″ gravel fill on top of sand. Ceiling area is insulated with 4″ fiberglass, with aluminum reflector insulation for walls.



CLIMATE DATA: Average temperature 85°; relative humidity 70%. Corrected by Weathertron to 72° and 50%.

COST: Approximately $50,000.

developed home around the G-E Weathertron

CHARLES PUMILIA, JR.

"We designed and built this home in an exclusive residential section of New Orleans," says Charles Pumilia, Jr., head of the Charles Pumilia Design & Construction Co. "It was developed and integrated around the General Electric Weathertron for several important reasons:

"From the design point of view, the use of fully automatic, all-electric cooling and heating by the G-E Weathertron permitted an improved appearance in both the exterior and interior of the home. Another important factor was the greater simplicity and economy effected by the Weathertron in eliminating fuel storage space, fuel lines, flues, and a cooling tower and pump, as well as the necessary plumbing and electrical connections thereto.

"Our client specified a completely comfortable, easy-to-maintain, one story home. He and his wife, both active in civic and social affairs, felt they required a home that could practically 'run itself.' When we explained to them that the Weathertron automatically changed over from heating to cooling and back, as required by weather conditions; that there were no fuel or water problems to contend with; that no unsightly cooling tower was needed —they authorized us to incorporate the Weathertron in their plans.

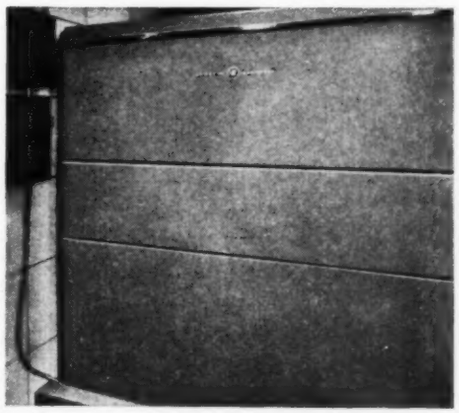
"Our client liked wide, open rooms and detested what he called an 'equipmenty' look. As a packaged unit, the Weathertron met this requirement nicely. The supply and return ducts are located in the attic; the only visible evidence of the heating and cooling system are the wall registers painted to match the walls in each room.

"We utilized the architectural advantages made possible by the Weathertron: we could forget cross-ventilation completely; it was possible to keep fenestration on the sun-exposed wall to the minimum required for natural illumination; the fireplace did not have to tie in with the heating plant; and the utility room could be located anywhere on the plan.

"Client is so completely satisfied with the performance of the G-E Weathertron after living in his new home for some time, that he gets pleasure in having people visit his home to see his Weathertron installation. So far, not even the most abrupt change in outdoor temperature has caused a moment's discomfort in this home. And our client's wife is delighted with its cleanliness—there's no smoke, soot, and little outside dirt to soil her furnishings."

FOR MORE INFORMATION about the G-E Weathertron and what all-electric heating and cooling can mean to architectural design, send for General Electric's "Architect's Guide to the G-E Weathertron." And if you have a particular problem in designing year-round comfort into a home because of unusual design requirements, we'd be glad to work with you to see if the Weathertron can help. Write General Electric Company, Air Conditioning Division, Section AR-12, Bloomfield, N. J.

Availability—The General Electric Weathertron is presently available in the south, southwest and on the west coast. Other locations will be added as soon as distribution and service facilities are established.



5-HORSEPOWER G-E Weathertron used in this home is typical of numerous other installations. All ductwork and wiring can be hidden; no exposed piping is needed to permit service and maintenance. G-E Weathertron provides unusual degree of year-round comfort: it cools, heats, dehumidifies, circulates and filters.

WEATHERTRON

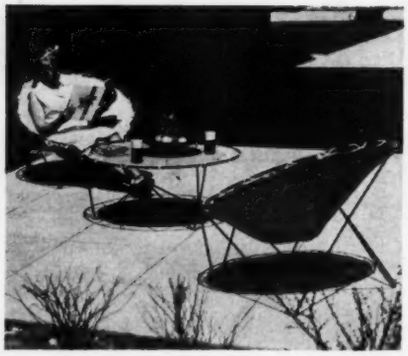
ALL-ELECTRIC COOLING AND HEATING FOR HOMES, STORES AND OFFICES.

GENERAL ELECTRIC

(Continued from page 264)

INDOOR-OUTDOOR FURNITURE

A "Flying Saucer" chair and table, designed by Richard Phillips, are described as representing a fresh approach to indoor-outdoor furniture, both from a functional and design standpoint. The chair has a flexible duck cover which shapes itself to the body of the sitter, giving him full and complete support. This is attached to a circular frame, whose low front allows the sitter to extend his legs and assume an easy lounging position.



Chair has duck cover on metal frame

The one piece steel frame and all welded construction reportedly combines lightness and portability with great strength. Covers are fabricated from extra heavy duck. Available in four shades, green, red, blue and yellow, the chair weighs only 12 lb. The table weighs 12 lb, is 36 by 36 by 15½-in. high, and is available in the same colors as the chair. Phillips Furniture Co., 2560 Fon du Lac Dr., East Peoria, Ill.

NEW LINE OF LOCKS

The *Defender* line of standard duty cylindrical locksets features ball bearing latch bolt retractors, dual bearings to prevent knobs from becoming wobbly, and concealed attaching screws and knob retainers. The locks are furnished for all of the functions normally required for light commercial and residential building, and are fully reversible and adjustable for doors 1⅜ to 1¾-in. thick. Installation is self-aligning and requires the drilling of only two standard-size holes in the door and a shallow mortise for the face plate. Auxiliary items in the line include king-size rose plates, backset extension units, flush cup for closet doors, rabbeted fronts and strikes, reinforcing frame for hollow metal doors, knobs for working trim and dummy trim, boring jig and bits, and a latch front mortising tool. P. & F. Corbin Div., The American Hardware Corp., New Britain, Conn.

STEEL DOOR FRAME

A new *Steelcraft* knocked-down steel door frame has been designed to conserve valuable storage space and cut down on shipping costs. The frame compliments the manufacturer's one piece factory welded door frame, and is expected to be of particular value in the conservation of storage space. Costs will be reduced because of lower shipping rates. The frame is shipped from the factory in four pieces; two jambs, a head and a spreader bar. It can be assembled easily, using a simple tab connection and four sheet metal screws. The spreader bar is used to keep the frame in alignment. Manufactured in all standard sizes, the frames are bonderized and painted with a baked-on grey primer. Steelcraft Mfg. Co., 9017 Blue Ash Road, Rossmoyne, Ohio.

(Continued on page 272)

Fiberglas **Sonofaced** acoustical tile... **Washable!**

Fire Safe · High Acoustical Value · Sanitary · Six Standard Colors

Send for latest Design Data. Write: Owens-Corning Fiberglas Corporation, Dept. 67-H, Toledo 1, Ohio

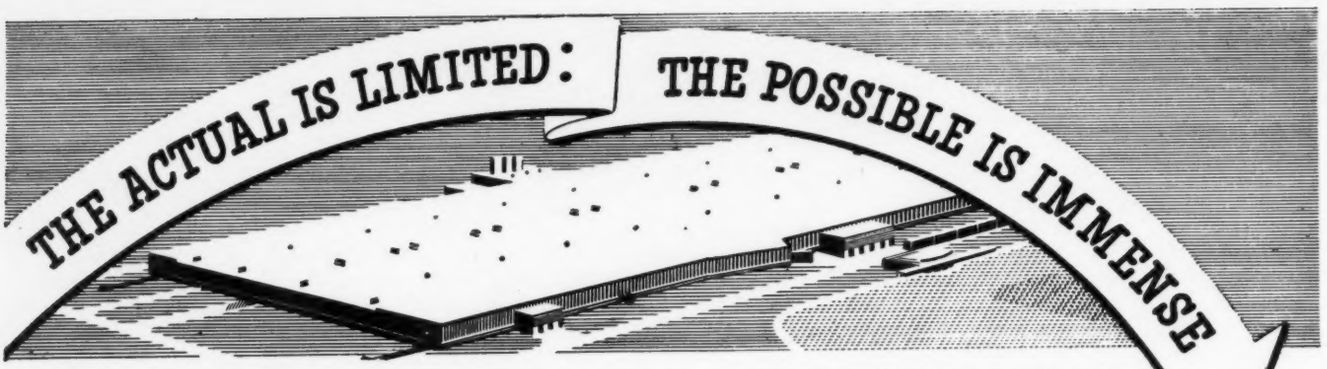
OWENS-CORNING FIBERGLAS

SOUND CONTROL PRODUCTS

FIBERGLAS TEXTURED, PERFORATED & SONOFACED* ACOUSTICAL TILE
FIBERGLAS TEXTURED & SONOFACED CEILING BOARD · FIBERGLAS SONOCOR*
ACOUSTICAL PADS FOR METAL PANS · FIBERGLAS NOISE-STOP* BAFFLES

*Fiberglas (Reg. U. S. Pat. Off.) Sonofaced, Sonocor and Noise-Stop are trade-marks of Owens-Corning Fiberglas Corporation.

lowest cost non-combustible acoustical materials available



NEW LINCOLN PLANT CREATED BY INCENTIVE-INSPIRED CO-ACTION IN DEVELOPING POSSIBILITIES IN PRODUCT

WELDED DESIGN SAVES $20,000 OVER RIVETING

FABRICATION and erection costs have been cut $20,000 with welded design of the Mayflower Apartments at Virginia Beach, Virginia. Simple details with welded frame connections provide further savings of 25% in weight of connections. Total framework weight is reduced 3%.

Connections are engineered to allow fast, low cost shop fabrication and yet permit flat position field welding on every joint. Each design detail utilizes the full economies of welded construction.

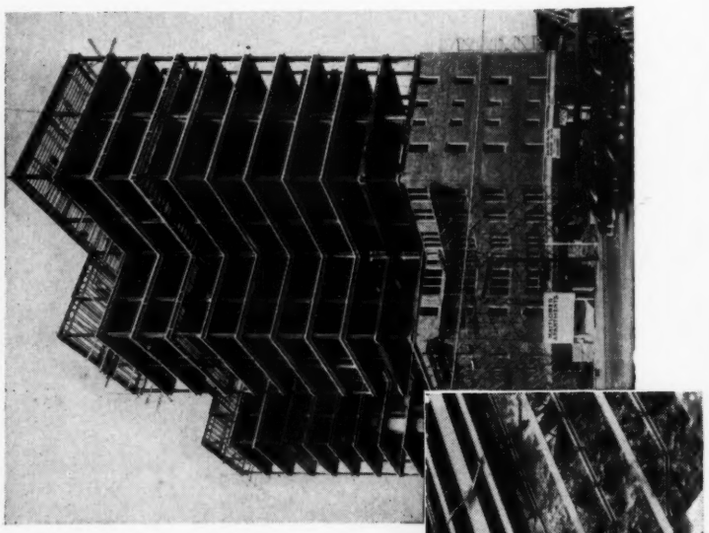


Fig. 3. Welded steel bar joists *set on 24" centers and welded in position for 11-story all welded framework. Fabricators and Erectors: Pittsburgh-Des Moines Steel Co., Pittsburgh, Penna. Engineers and contractors: Byrne Organization, Inc., Washington, D. C.*

SIMPLE DETAIL SPEEDS ERECTION

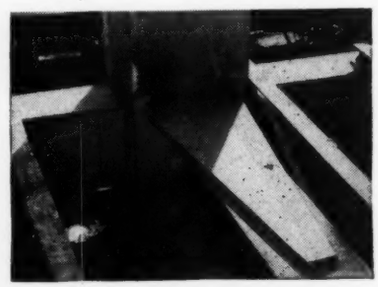


Fig. 1. Faster beam-to-column connections. *Clip angle is shop welded to column for bolting beam in the field. Outside cover plates are then field welded to top and bottom flanges and the top plate to column in flat position with Lincoln "Fleetweld 5" electrodes. Bottom plate is shop welded.*

FASTER COLUMN SPLICES

Fig. 2. Typical welded splice *of all columns 12 to 12 and 12 to 14 WF column. Bearing plate is shop welded to lower column . . . clip angle for erection bolts is shop welded to upper column. All field welds are made in fast, easy downhand position.*

HERE'S HOW WELDED DESIGN SPEEDS ERECTION

Studies in Structural Arc Welding free on request. Designers and engineers write on your letterhead to Dept. 2605.

THE LINCOLN ELECTRIC COMPANY

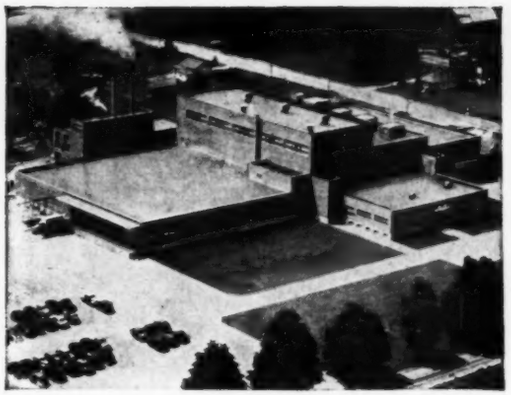
Cleveland 17, Ohio

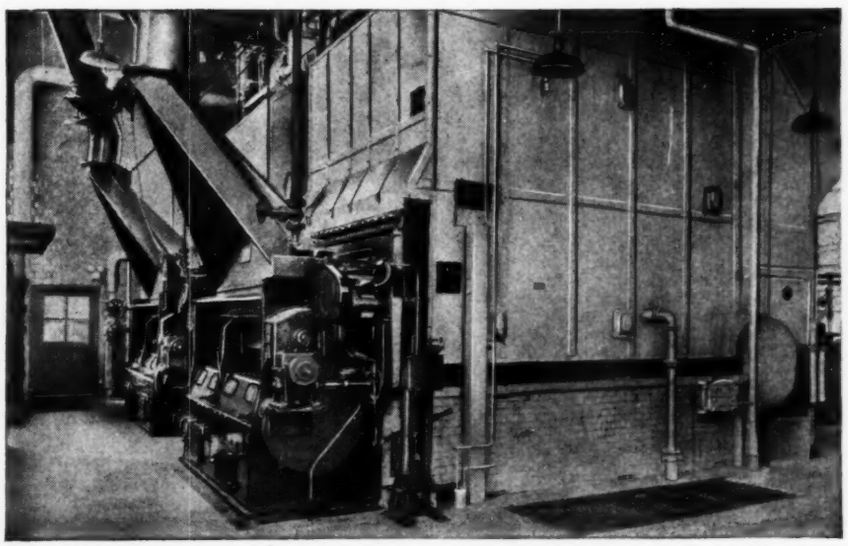
THE WORLD'S LARGEST MANUFACTURER OF ARC WELDING EQUIPMENT

"COAL'S BEST FOR OUR MODERN PLANT!

It's low in cost . . . It's clean and convenient!"

says G. W. Peters, Engineering Manager
M&R DIETETIC LABORATORIES, INC.
makers of PREAM & SIMILAC





"We made a careful study of fuels and burning equipment before building our modern new plant in Sturgis, Michigan. This plant was designed to produce baby food. So the steam plant has to be clean and dust-free as well as economical to operate. Also, we wanted a fuel we could store safely and easily in order to insure ourselves against any shortages.

"We decided on bituminous coal—and the up-to-date installation shown here. It certainly fills the bill on every count. Our modern combustion equipment makes coal far more economical than any other fuel. Up-to-date coal and ash handling give us convenient operation completely free of dust nuisance."

Additional case histories, showing how other types of plants have saved money by burning coal the modern way, are available upon request.

Discover for yourself the great advantages of coal burned the modern way. Call in a consulting engineer. He'll show you how today's combustion equipment can give you 10% to 40% more power from a ton of bituminous coal than from equipment used only a few years ago. He'll show you how modern labor-saving coal and ash-handling equipment make a coal-fired installation clean, convenient, and dust-free.

If you plan to remodel or build a new plant, be sure to look into the low cost and convenience of bituminous coal. Consider coal's other advantages, too. It has reserves that are virtually inexhaustible. America's bituminous coal mining industry is the most efficient and productive in the world. With bituminous coal, you can be sure of plenty of fuel at relatively stable prices now and for years to come.

If you operate a steam plant, you can't afford to ignore these facts!

BITUMINOUS COAL in most places is today's lowest-cost fuel, and coal reserves in America are adequate for *hundreds of years* to come.

COAL production in the U.S.A. is highly mechanized and by far the most efficient in the world.

COAL prices will therefore remain the most stable of all fuels.

COAL is the safest fuel to store and use.

COAL is the fuel that industry counts on more and more—for with modern combustion and handling equipment, the inherent advantages of well-prepared coal net even bigger savings.

BITUMINOUS COAL INSTITUTE
A Department of National Coal Association
Southern Building, Washington 5, D. C.

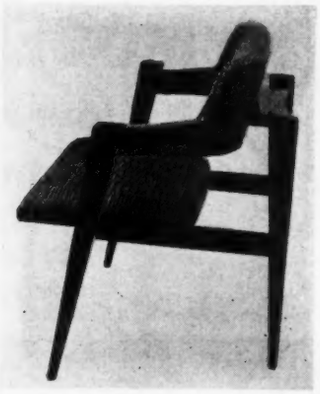
FOR HIGH EFFICIENCY FOR LOW COST

YOU CAN COUNT ON COAL!

(Continued from page 268)

◀ Thonet's "100th Anniversary Chair" is molded wood.

▼ Phillip Enfield's "Sardi" chair has walnut frame



NEW SEATING UNITS

Among new designs in contemporary chairs for dining, desk, or occasional lounge use are the following:

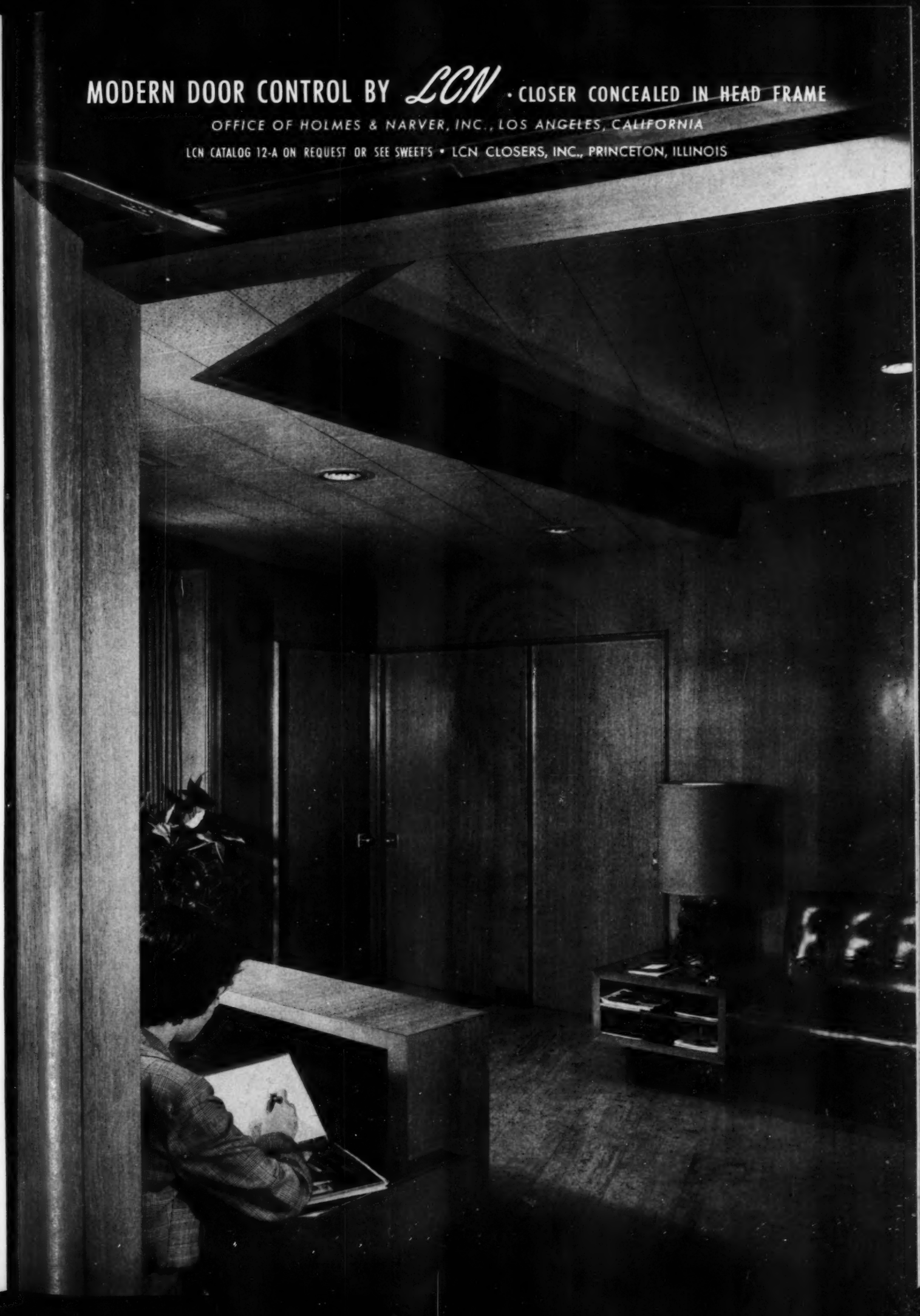
• The *Thonet 100th Anniversary Chair*, designed by Joe Adkinson, consists of a molded seat and back over a V-shaped laminated base, reinforced by stretchers. A new bonding process joins the back panel and support of the all wood back, permitting the elimination of screws. Chairs are available with or without arms, with wood seats and wood backs, or upholstered. Choice of finish is natural maple, walnut, mahogany or black enamel. This chair, as well as most of the Thonet furniture, is particularly suited to restaurants, clubs, schools, hospitals, institutions, stores, and other public use. Thonet Industries, Inc., One Park Ave., New York, N. Y.

• Marking the first anniversary of Phillip Enfield Designs, the *Sardi* chair has a foam rubber seat and back which is supported by a solid walnut frame with a hand-rubbed natural walnut finish. Measuring 24-in. wide by 21½-in. deep by 30-in. high, the chair has an adjustable seat which can be set forward or back to fit individual needs The front legs of the frame come up to meet the upholstered arm, acting as an extension arm rest and support. Phillip Enfield Designs, 50 W. 53rd St., New York, N. Y.

NEW CLOCK DESIGNS

A new series of modern clocks has been designed by George Nelson for the *Howard Miller* line. Emphasizing simplicity of form, the four new additions to the "Chronopak" series are all wall clocks, and make particular use of sharp colors and contrasting materials. One design, known as the "Sunburst Clock," is composed of 12 tapered, four-sided spokes, which radiate out from a central cylinder of white metal. The clock's

(Continued on page 276)


MODERN DOOR CONTROL BY LCN · CLOSER CONCEALED IN HEAD FRAME
OFFICE OF HOLMES & NARVER, INC., LOS ANGELES, CALIFORNIA
LCN CATALOG 12-A ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., PRINCETON, ILLINOIS

Another reason why Architectural Record leads its field by 1,000 advertising pages a year...

BUILDING MARKET COVERAGE

There is no need to speculate about the extent of your building market coverage as an Architectural Record advertiser.

You can be sure when you advertise in Architectural Record that you are reaching those architects and engineers who *verifiably* are responsible for 85% of the total dollar volume of all architect-designed building reported by F. W. Dodge Corporation, including both nonresidential and residential projects of very small to the largest size.

You can be sure because Architectural Record is the one magazine that can document its building market coverage with *Dodge Reports of building activity* whose completeness and accuracy are assured by more than 1,000 trained newsgatherers.

Architectural Record is able to match the names of its subscribers against the names of the *active* architects and engineers contained in *Dodge Reports* and accurately determine not only its coverage of the building market as a whole but of every major type of building activity.*

We think you will agree that *Dodge-documented* coverage of the building market is a sound reason for advertising in Architectural Record. It is a basic reason why 543 building products manufacturers (two-thirds of all advertisers in one or more of the three major architectural magazines) are putting the Record *ahead of its field by 1,000 advertising pages a year.*

**Ask for our latest detailed market coverage checks covering the states of Pennsylvania, Lousiana, and Texas.*

F.W. DODGE CORPORATION

Architectural Record

"workbook of the active architect and engineer"

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New York 18, N. Y.
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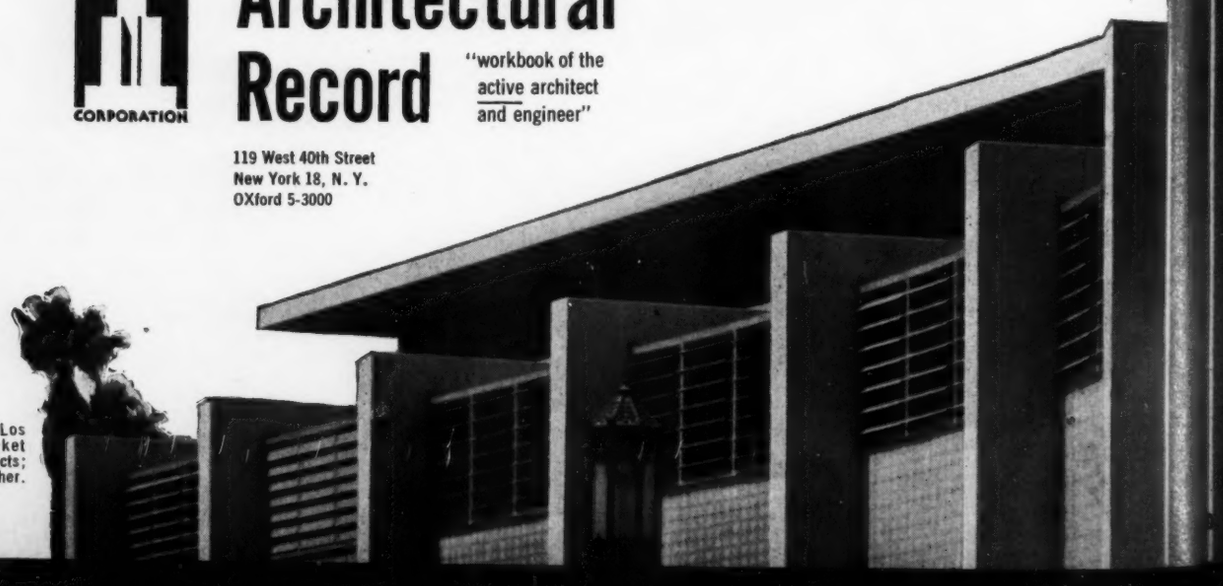


Bullock's Westwood Store, Los Angeles, Calif. Welton Becket F.A.I.A. & Associates, architects; Douglas M. Simmonds, photographer.

DOCUMENTED BY DODGE REPORTS

Five more reasons why
The Record leads its field by 1,000 advertising pages a year:

1. Editorial timeliness and balance: Editorial content is balanced scientifically with the aid of *Dodge Reports* in terms of all types of buildings architects and engineers are currently designing—the types of buildings that mean business for architects, engineers *and advertisers.*

2. Editorial quantity: The Record consistently carries more editorial pages than any other magazine serving architects and engineers (30% more in the first six months of 1953).

3. Reader preference: In 50 out of 56 readership studies (sponsored by advertisers and agencies) for which results are available—and in all sixteen such studies since January 1952—architects and engineers have rated Architectural Record first.

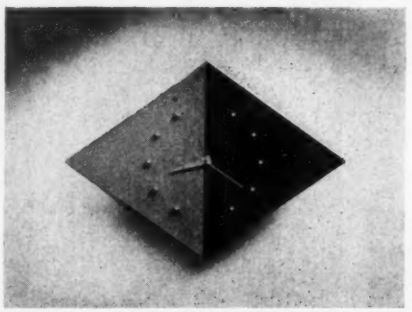
4. Circulation: Architectural Record reaches more architects and engineers than any other architectural magazine.

5. Lowest cost: Per page per thousand architects and engineers.

A-E PRODUCTS

(Continued from page 272)

hour and minute hands are black, with accents of orange and gray. Another clock, called the "Kite Clock," is diamond-shaped, with its two component triangular panels painted in



New diamond-shaped George Nelson clock is available in a choice of three 2-color combinations

contrasting tones — either black and white, orange and purple, or yellow and olive green. Two other clocks are made of perforated metal, enameled in black or white. One is round, the other oval in shape. Both contrast pin-point shadows when hung on a wall. Howard Miller Clock Co., Zeeland, Mich. Distributed by Richards Morganthau Co., 225 Fifth Ave., New York, N. Y.

TABLE AND BENCH FOR INDUSTRIAL SEATING

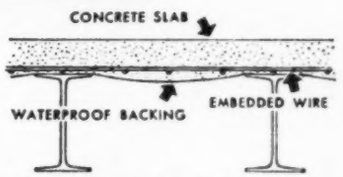
A *Tip-Top* table for industrial seating features table-and-bench service combined with folding action for storage, full mobility with casters and all-over plastic protection for the table top. Seating up to eight adults, the table reportedly incorporates a new functional design for one-leaf industrial tables. When not in use, the top tips over to vertical position for storage in an area less than 12″ wide. Unfolded, the table has a surface area of 15 sq ft. Benches are made of 1/16″ vertical grain fir with natural finish. Frame construction is of 1″ 14 gauge structural steel tubing, zinc lustron plated. The table requires no locks or catches to operate. Designed for use both as work table and for employee lounges, its construction and materials suit it equally well for outdoor use. Seating, Inc., Dept. KP, 6045 Pillsbury Ave., Minneapolis 19, Minn.

Architect: C. H. Blohm, Miami

Miami's largest, most important new office building in 16 years uses **Steeltex Floor Lath**

The new steel and concrete Pan American Bank Building —the first major office building constructed in Miami since 1937—was designed for long life, low maintenance, and economy in construction. Each concrete deck including the roof was poured over thousands of square feet of durable, economical Steeltex Floor Lath—the modern, time and money-saving, galvanized steel wire concrete reinforcing which *carries its form on its back* (see note at right) and permits continuous work on the floor below.

Steeltex offers speed and economy because it can be installed rapidly. It insures strength, durability and safety because the galvanized welded wire mesh is properly embedded, and the slab is properly cured because the tough waterproofed backing retains the water, thus insuring the correct water-cement ratio. For detailed information about Steeltex Floor Lath, the combined form and reinforcing, see our catalog in Sweet's or write for catalog D.C. 133, Dept. AR, Pittsburgh Steel Products Company, Grant Building, Pittsburgh 30, Pennsylvania.

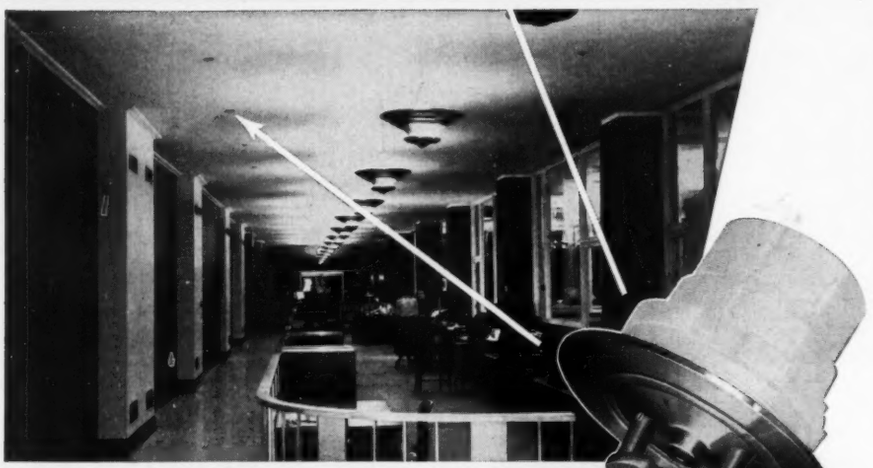


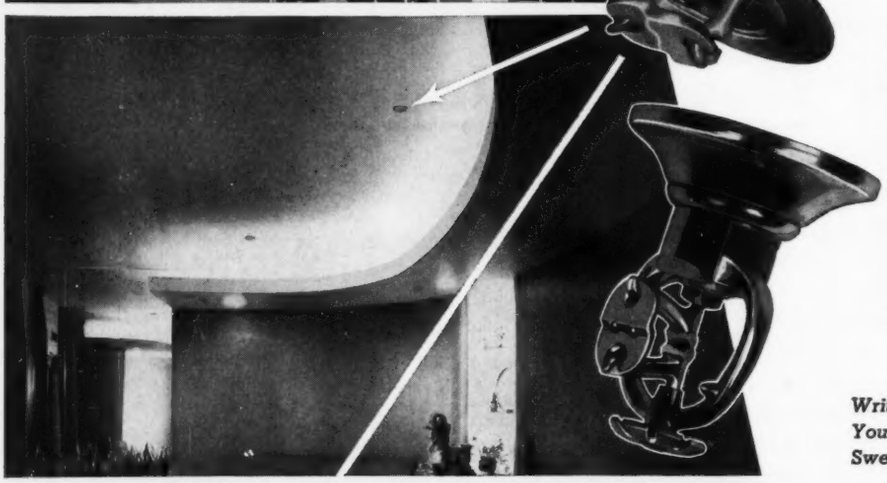
Note, *in the cross section and closeup that the weight of the wet concrete forces the backing away, which permits the galvanized wire mesh to assume its proper position in the slab. Steeltex Floor Lath also performs two other functions. It permits work on the floor below while pouring is in progress and retains moisture to assist proper curing.*

Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company

Here's how four Architects used our heads





From luxurious offices to automobile show-rooms, Viking sprinkler systems can be effectively worked into any design you desire. And more . . . there is Viking equipment for every hazard and condition . . . always ready to quench fire.

While the Viking system remains on guard they also perform an extra service for your clients . . . it actually lowers insurance costs . . . as much as 75% in many cases — and more.

A Viking design engineer is ready to work with you personally without cost . . . to help with the technicalities of automatic sprinkler installation. Circle the name of the Viking representative nearest you . . . then tear out this ad and drop it in your file for future reference. It will save you time and money . . . the next time you need automatic sprinklers.

Write for your copy of "Fire and Your Business" as included in Sweet's Architectural file.

the VIKING corporation

hastings, michigan

see our catalog in S ARCHITECTURAL FILE or write for copy

A|E LITERATURE

(Continued from page 210)

WATER SPORTS EQUIPMENT

"Laughing Loon" Water Sports Equipment. Catalog No. 53. Booklet contains photographs and sketches of the various shapes, and complete details of the manufacturer's new demountable, adjustable steel landing pier. Information is also included on swimming and landing floats, diving boards and water sports accessories, which include anchor chains, bilge pumps, boat hooks, boat rollers, buoy holders, coco-matting, float ladders, grapples, life lines and floats, mooring cleats, mooring rings, and ring buoys. 11 pp., illus. Hussey Mfg. Co., Inc., No. Berwick 53, Me.

CONTEMPORARY FURNITURE

Two brochures on contemporary furniture are currently available.

• *Risom Furniture.* Catalog supplement and furniture price list. Brochure illustrates additions to the manufacturer's line of furniture, containing photographs and descriptions of dining tables and chairs, occasional tables, desks and upholstered items. 6 pp., illus. Jens Risom Design, Inc., 49 E. 53rd St., New York 22, N. Y.

• *Definitive Modern.* Catalog illustrates and describes the furniture collection of designers William Breger and Stanley Salzman, including case pieces, room dividers, tables, chairs, sofa-beds and other upholstered pieces. 15 pp., illus. Grosfeld House, 215 E. 58th St., New York 22, N. Y.

HOME ACCIDENT PREVENTION

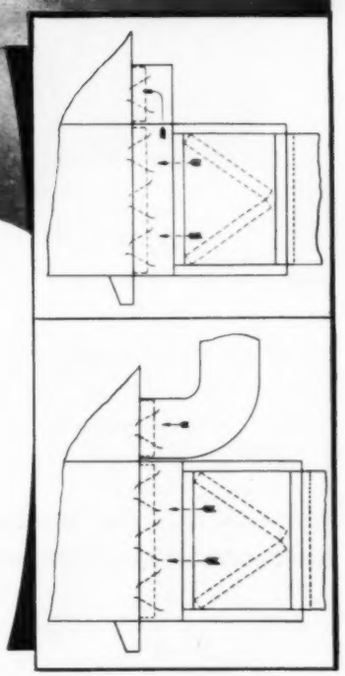
How to Build or Remodel for the Safety of your Family. Booklet gives percentage of home accidents which occur in the various parts of the home, and offers suggestions on how to prevent them by providing certain set "rules" that should be followed in the construction of the home. Plan protection from windstorm, fire, spontaneous combustion, explosion and other hazards is discussed, dealing with the main features of the design and construction of a house and grounds — features which reportedly can go a long way toward preventing or minimizing the results of carelessness or unavoidable catastrophe. 44 pp., illus. The Home Insurance Co., 59 Maiden Lane, New York 8, N. Y.

(Continued on page 284)

KENNARD *Engineered*

SPECIAL WITH MANY STANDARD WITH KENNARD

Exposed View Showing Damper Construction



Opposed-Acting Dampers

Architects, Engineers and Contractors prefer opposed-acting Dampers for these features:

Uniform increments of opening for each degree of rotation of the damper blades, assure air flow characteristics that simplify the control problem.

Balanced forces assure freedom from blade flutter.

Opposed-Acting Dampers are standard on all KENNARD air handling units.

Another special feature by Kennard is a choice of By-Pass Arrangements, illustrated at right.

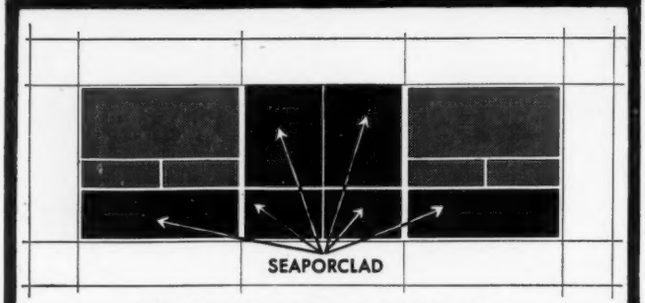
Write for name of nearest representative and catalogs needed.

KENNARD CORPORATION • 1821 S. HANLEY ROAD ST. LOUIS 17, MO., U.S.A.

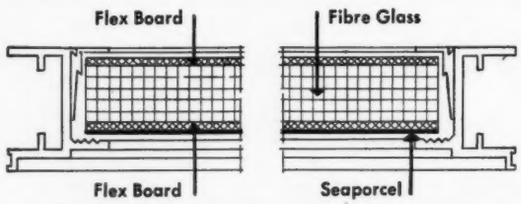
SEAPORCLAD BY SEAPORCEL

as modern as the new Hartford Statler Hotel

William B. Tabler, Architect
Geo. A. Fuller, Contractor
Aluminum windows by Universal Corporation, Dallas, Texas
photograph by Louis Checkman from model by Theodore Conrad



ELEVATION OF TYPICAL OPENING



SECTION THRU SEAPORCLAD WALL PANEL

455 ROOM HARTFORD STATLER HOTEL, Corners of Pearl, Ford Sts., Hartford, Conn.

THE USE OF versatile Seaporclad building panels is finding increasing architectural recognition. A lamination of Seaporcel porcelain with thermal and sound insulating core, Seaporclad has been chosen for the 20,000 square feet of colorful spandrels for the Hartford Statler, the newest addition to the Statler Corporation's national chain of quality hotels.

DESIGNED to give strength, durability, sound and heat insulating properties, Seaporclad is also ideal for curtain wall construction. Supplanting heavy masonry walls, Seaporcel engineered facades save space and weight with resultant reductions in structural steel and foundation costs. Held in place by numerous methods, this extremely lightweight material can be laminated to almost any type of insulating core with any other building material on the reverse side.

UNAFFECTED by weather, fire and corrosion-resistant, Seaporclad keeps maintenance costs at the vanishing point. It is fabricated for a variety of uses in conventional sizes and in any thickness or shape... and is available in the fullest scope of textures and colors.

For Some Job...Somewhere... You Can Use SEAPORCEL*

To find out how Seaporcel can fit into your plans, ask for our local representative to call, or write for brochure No. 2

SEE OUR CATALOG IN SWEET'S 1953

Seaporcel

SEAPORCEL METALS, INC.
2800 Borden Avenue
Long Island City 1, New York

SEAPORCEL PACIFIC, INC.
1461 Canal Avenue
Long Beach 13, California

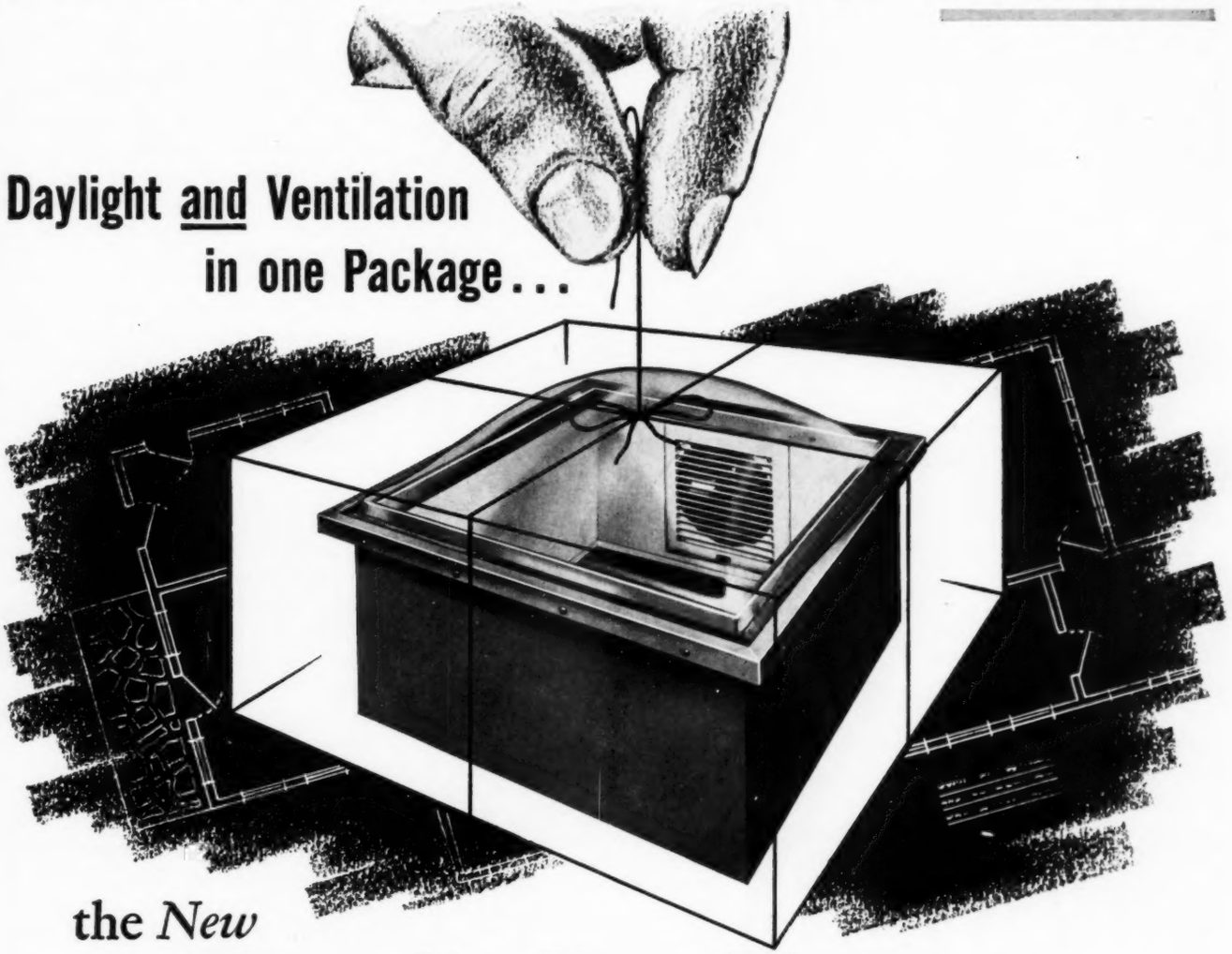
ARCHITECTURAL PORCELAIN — Member: Porcelain Enamel Institute A. F. OF L. METAL FABRICATING & ENAMELING PLANTS

*Reg. U.S. Pat. Off.

COMPLETE ENGINEERING & ERECTION DEPARTMENTS

ANOTHER WASCO FIRST

Daylight and Ventilation in one Package...



the *New* *Wascolite Ventdome**

put it anywhere in the plan—

Now, for the first time, the superior daylighting of Wascolite Skydomes — with ventilation added! You can revolutionize home, school and plant layouts — yet allow adequate daylighting and air circulation for all interior areas. And all of these radical changes can be planned without designing special roof, curb or flashing construction!

The Wascolite Ventdome — the first and only unit of its kind commercially available — is completely prefabricated. Easily installed over a simple roof opening. The Ventdome consists of an acrylic plastic dome and an insulated curb with built-in ventilating unit — power driven or with adjustable louvers. Available in aluminum, copper or galvanized iron, with domes of clear colorless or white translucent acrylic plastic. Nine standard sizes.

Wascolite Ventdomes are the product of the Wasco Flashing Company — makers of the famous Wascolite Skydome and pioneers in the field of toplighting.

*patent applied for

For further information see Sweet's Catalog or write:

WASCO FLASHING COMPANY

82 Fawcett St., Cambridge 38, Mass.

A.E. LITERATURE

(*Continued from page 280*)

BITUMINOUS COAL

Burning Bituminous Coal The Modern Way. Booklet gives case histories designed to show savings in cost and gains in combustion efficiency obtained with bituminous coal burned with modern equipment. Data sheets for each installation show engineering survey results, solution to the problem, equipment removed, new equipment installed, automatic controls, annual fuel consumption and reduction in operating costs. 22 pp., illus. Bituminous Coal Institute, Dept. of National Coal Assn., Southern Bldg., Washington 5, D. C.

PORCELAIN ENAMEL

Modernization Payoff. Brochure shows various types of porcelain enamel panels for exterior application. Contains photographs of actual jobs, and features story of a ten-year study by a national chain store which shows value of planned modernization. 8 pp., illus., Davidson Enamel Products, Inc., Dept. B-53, Lima, Ohio.

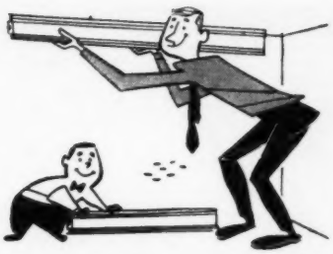
DEAERATING HEATERS

Graver Spray-Type Deaerating Heaters. Bulletin explains specific functions and requirements of deaerating heaters, describes their design and operation in detail, and outlines the accessory equipment necessary for best results. Illustrations include complete sectional drawings and representative installation photographs of both horizontal and vertical designs, together with flow charts of units in typical applications. 7 pp., illus., Graver Water Conditioning Co., Dept. 67, 216 W. 14th St., N. Y. 11.

AUTOMATIC BOILERS

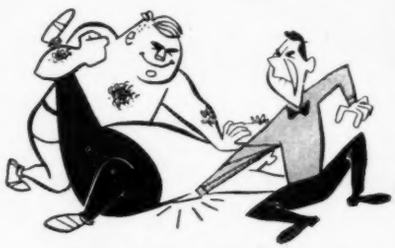
Powermaster, Bulletin 1219. Bulletin describes manufacturer's packaged automatic boilers in seventeen sizes from 15 through 500 hp for steam process as well as steam and hot water heating service. Constructional and operational advantages are described and pictured. Firing equipment for light and heavy oils as well as gas is described and detailed specifications are given for boiler, burner, and control systems. Drawings, cutaway views, and useful data are also included. 15 pp., illus., Orr & Sembower, Inc., Morgantown Road, Reading, Pa.

(*Continued on page 288*)

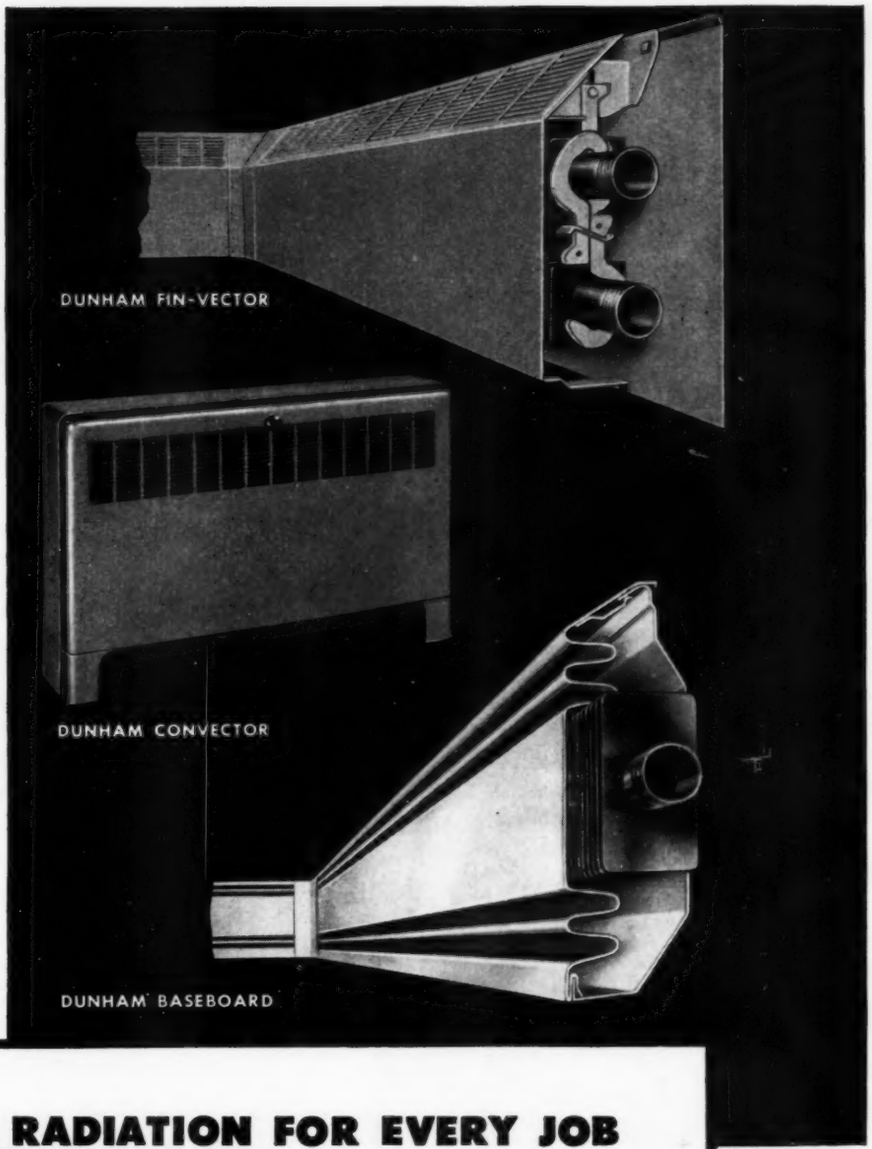


"Light weight—can be suspended at *any level* along wall"

"Easy-to-turn damper knob in reinforced, one-piece front"



"Fits flush with the floor—no 'cleaning under' problem"



EVERYTHING IN RADIATION FOR EVERY JOB ...FROM THE COMPLETE DUNHAM LINE

Here's As Complete A Line of radiation as you can get . . . *anywhere.* Good-looking Dunham Baseboard, along the wall Fin-Vector Radiation, and fast-heating Convectors have both new and improved features that can save you time and trouble now, and insure customer satisfaction years from now.

So why bother to shop around getting one type of radiation here . . . another type there? Why not put all responsibility for heating performance squarely up to one manufacturer. Let Dunham do it . . . and you'll have no regrets whether you specify, install or live with Dunham Radiation.

For complete information . . . about this complete line . . . just clip and mail the coupon.

DUNHAM **HEATING EQUIPMENT**

RADIATION • UNIT HEATERS • PUMPS • SPECIALTIES

QUALITY FIRST FOR FIFTY YEARS

C. A. DUNHAM COMPANY • CHICAGO • TORONTO • LONDON

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Dept. AR-10, 400 W. Madison St.
Chicago 6, Illinois

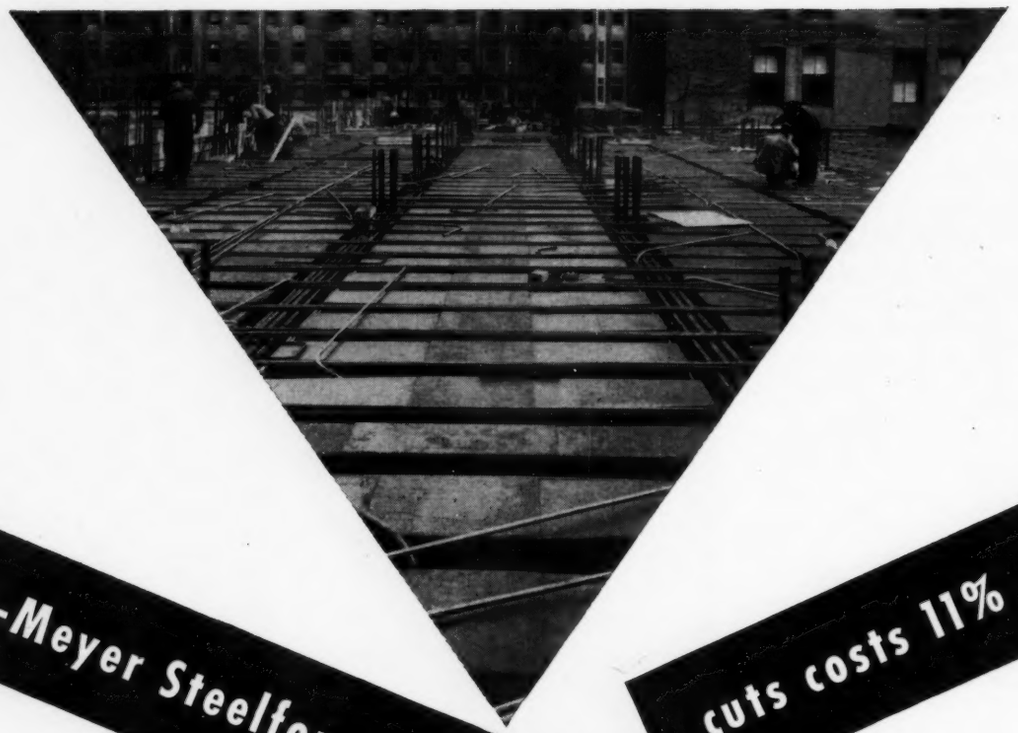
Send literature on ☐ Baseboard ☐ Fin-Vector ☐ Convectors

Name_____

Firm_____

Address_____

City_____ Zone____ State____



Ceco-Meyer Steelform Service cuts costs 11% . . .

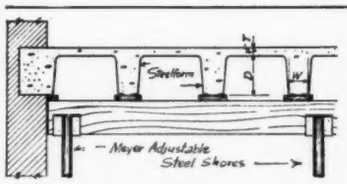
Ceco-Meyer Steelform Service was used in these 3 buildings

In construction products **CECO ENGINEERING** *makes the big difference*

Economy in building is important, even to a great institution. So, when Schmidt, Garden and Erickson, Architects, designed three units of a medical center in Chicago, several methods of constructing floor systems were studied. Ceco-Meyer Steelform Service was selected because it offered definite savings. But let them tell the story.

"We made an analysis of several types of construction," say the architects, "including slab-beam-and-girder, solid slab and several others. When the figures were on paper, concrete joist construction showed a saving of 11% in the concrete frame. Ceco was selected to provide Meyer Steelform Service. J. W. Snyder Company, General Contractor, made the indicated savings realistic."

"To complete a major hospital job on time," says Constructor Victor Snyder, "there must be close cooperation between architect, constructor and a supplier who understands our joint problems. Such a firm is Ceco . . . their construction knowledge in the field, and ability to perform, got them the job."

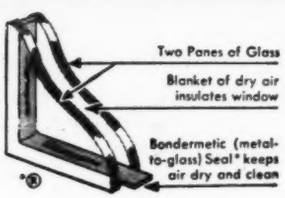


cross section *Less steel, concrete, lumber, labor with Ceco-Meyer Steelform Service.*

CECO PRE-PLANNING CONSULTATION SERVICE
Ceco Product and Design Specialists will assist you in the application of Ceco building products at the pre-planning stage . . . Call Ceco office for overnight service.

CECO STEEL PRODUCTS CORPORATION
Offices, warehouses and fabricating plants in principal cities
General Offices: 5601 W. 26th St., Chicago 50, Illinois

"*Thermopane* resulted in savings on both initial cost and operational cost of heating and air conditioning."



Thermopane cuts air-conditioning as well as heating costs

People want economical heating and air conditioning. They also want the *big window areas* they've become accustomed to. Insulation without isolation.

You can give it to them with the help of *Thermopane** insulating glass.

Architect Everett V. Welch of Dallas, Texas, used *Thermopane* in an air-conditioned house in Dallas (shown above). He says:" This resulted in savings on both heating and air conditioning, first from the standpoint of initial cost and second, in operational cost."

And look at the size of those windows! Note, too, the shaded strip due to a sufficient overhang.

Here's what the National Warm Air Heating & Air Conditioning Association says: "Insulation and double glazing are desirable". It goes on to say that this "may allow the use of the next smaller horsepower cooling unit with its corresponding saving in equipment and operating cost".

TO RECAP: *Thermopane* insulating glass reduces heat *loss* in winter, heat *gain* in summer. It is *permanent* insulation, just as the other insulation in the building is permanent. Nothing to put up and take down. No extra maintenance or washing. *Thermopane* is made to order for modern heating and air conditioning. And it is available in virtually any type, style or size of window. *®

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Thermopane
INSULATING GLASS

LOOK FOR THE NAME ON THE SEAL BETWEEN THE PANES

Libbey-Owens-Ford Glass Company
41103 Nicholas Bldg., Toledo 3, Ohio

Please send immediately my free copy of "Glazing the Air-Conditioned Home". Also send complete information on types and sizes of *Thermopane* and the kinds of sash in which it is available.

Name _____
Please Print

Address _____

City _____ Zone _____ State _____

A E LITERATURE

(Continued from page 284)

OIL BURNERS

Ray Oil Burners. Condensed catalog lists manufacturer's industrial oil and gas-oil burners, including fully automatic, semi-automatic and manually controlled horizontal rotary and steam turbine drive burners, and commercial and domestic pressure atomizing types for oil, gas or combination gas-oil. Specifications and capacities are included. 16 pp., illus., Ray Oil Burner Co., 1301 San Jose Ave., San Francisco 12, Calif.

COLOR CHART FOR VINYL TILE FLOORING

Vinyl Plastic Asbestos Tile Color Classification Chart. Color classification chart is designed to clarify color lines available from each manufacturer. It is also a guide to show for each manufacturer's color lines the commercial equivalents which give the same general color tone or effect. Developed by the Market Research Committee of the Asphalt Tile Institute for the convenience of architects, builders, and others who may select or specify the tile, it lists some 16 colors in the following makes and trade names:

Armstrong	"Excelon"
Congoleum-Nairn	"Vinylbest"
B. F. Goodrich	"Koroseal"
Hachmeister	"Vinylflex"
Johns-Manville	"Terraflex"
Kentile	"KenFlex"
Mastic	"Aristoflex"
Moultile	"Moulflex"
Sloane-Delaware	"Flor-Ever"
Tile-Tex	"Flexachrome"
Uvalde	"Vina-Lux"

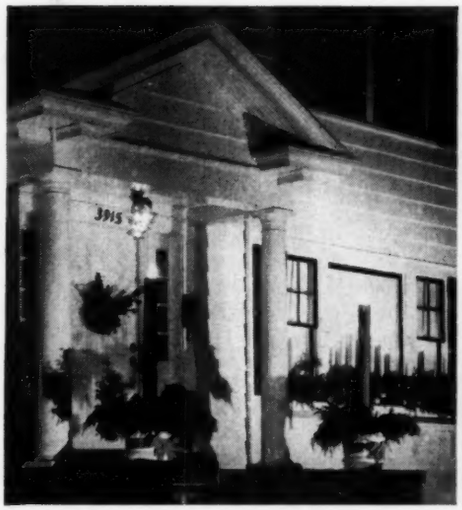
Single copies available without charge from Asphalt Tile Institute, 101 Park Ave., N. Y. 17.

BOILER-BURNER UNIT

Titusville Iron Fireman. Bulletin B-3133. Bulletin describes manufacturer's new Boiler-Burner Unit and includes an output rating chart, a cutaway drawing indicating all basic components, chart showing ratings, performance data and dimensions, and a discussion of the various elements in the burner system. Titusville Iron Works Co., division of Struthers Wells Corp., Titusville, Pa., or Iron Fireman Manufacturing Co., Cleveland 11, Ohio.

(Continued on page 292)

So many ways to use... this abundant ability wood



Weyerhaeuser 4-Square bevel and bungalow siding of West Coast Hemlock is noted for its paintability as well as its durability.

This West Coast Hemlock floor looks new after 17 years of hard use. Hemlock is dense, resilient, stable—and is often called the "hard softwood" because the fibers mat together and harden as the wood ages.

Weyerhaeuser 4-Square WEST COAST HEMLOCK

The "Ability Wood"

Some woods are known for their beauty . . . some for strength . . . some for durability. Only a few combine these desirable features.

One of these multi-purpose woods is West Coast Hemlock, a softwood species grown only in the Pacific Northwest. A mild climate gives this wood an even texture. The grain is straight. It contains practically no pitch, and has very few small, tight knots. There is a minimum of checking and splintering in West Coast Hemlock. It is stiff and strong . . . the stress grades of Hemlock dimension include 1600 f. select structural, 1450 f. No. 1 and 1100 f. No. 2. Yet Hemlock is remarkably light to handle, and one of the easiest softwoods to cut and shape. These natural advantages, plus the benefits of careful processing, result in a wide range of Weyerhaeuser 4-Square West Coast Hemlock lumber items that are interchangeable with other leading softwoods. The variety of uses is so great that this Hemlock has earned the name "Ability Wood."

Because Hemlock is of great value to you for a variety of uses—and because the supply is plentiful—you will want to know more about it. Write for literature on Weyerhaeuser 4-Square West Coast Hemlock, the abundant "Ability Wood."

PROPER PROCESSING OF HEMLOCK

● Through scientific logging, accurate sawing, controlled kiln seasoning, precision surfacing, proper grading, careful handling and shipping, Weyerhaeuser provides this abundant "Ability Wood" in a wide range of 4-Square West Coast Hemlock lumber products.

Weyerhaeuser 4-Square
LUMBER AND SERVICES
WEYERHAEUSER SALES CO., ST. PAUL 1, MINN.

BUILD BETTER WITH HEMLOCK...*THE ABUNDANT "ABILITY WOOD"*

...that's the kind of money-saving service Toncan Iron gives

The original buildings of St. Vincent's Charity Hospital, Cleveland, Ohio, were erected in 1865—others were added later. In 1913, rust-resisting Toncan Iron gutters, downspouts and cornices were installed on the original and 1902 buildings.

Recently, in 1951 and 1952, some of the older buildings were torn down to make way for new, more modern structures. At that time the Toncan Iron sheet metal work on those buildings was in good condition—good for many more years had it been needed.

On the power building shown above, and on the laundry building, Toncan Iron still is serving. After 40 years it is going strong. The only maintenance work ever required has been some soldering at the joints, plus periodic painting.

That's the kind of service that has built a reputation for Toncan Iron. Today, this ALLOYED IRON, containing twice as much copper as ordinarily used in copper-bearing steels and irons—plus just the right amount of molybdenum to make the copper most effective all the way through—resists rust better than any other ferrous material in its price class. It lasts—saves sheet metal headaches—costs less in the end.

See Sweet's File or write us for literature.

REPUBLIC STEEL CORPORATION
GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, N. Y.

TONCAN COPPER MOLYBDENUM IRON

FOR MORE THAN 40 YEARS...
HIGHEST RUST-RESISTANCE OF ALL
FERROUS MATERIALS IN ITS PRICE CLASS

Republic
REPUBLIC STEEL
TONCAN COPPER MOLYBDENUM IRON

—for ducts, gutters, conductor pipes, roofing, siding, tanks, ventilators, skylights, hoods and other sheet metal applications requiring rust-resistance—and for corrugated metal drainage products.

air conditioning

attracts a community's funds —and its fun

A social room in a *bank?* Yes—it's one example of how banks are becoming more and more a part of the communities they serve. This combination branch office and civic center—complete with parking facilities and air conditioning—is located five minutes from the heart of Syracuse, N. Y. It's the new Community Branch of the Onondaga County Savings Bank. ▪ The 30′ x 90′ main floor is designed for banking and business. The fully furnished basement room, with its own parking lot entrance, adjoining kitchen and dressing rooms, is dedicated to the activities of local church, club and civic groups. A Carrier Weathermaker* Air Conditioning System helps keep both upstairs and downstairs busy and inviting. The Carrier Weathermaker provides year-round comfort. Its heating coils use

steam supplied by a gas-fired boiler. ▪ The new branch enjoys the best community relations in the bank's history and officials credit this to the community center—parking lot—air conditioning combination. ▪ Whether you are designing a bank, a suburban store, a restaurant or a controlled-climate home, you will find in the full line of Carrier Weathermakers one that fits the bill exactly. Carrier people founded the air conditioning industry more than 50 years ago. All this experience is yours to command. Look for Carrier in the Classified Telephone Directory. Or write Carrier Corporation, Syracuse, New York.

Carrier

air conditioning
refrigeration
industrial heating

Architects: Merton E. Granger, Helen C. Gillespie
Mechanical Engineers: St. John & Platt
Mechanical Contractor: Edward Joy Company
Air Conditioning Contractor: Cooney Company

*Reg. U.S. Pat. Off.

A/E LITERATURE

(*Continued from page 288*)

CHECKING HINGES

Shelby Checking Floor Hinges and Pivots. Catalog covers the manufacturer's complete line of checking floor hinges and pivots and has been designed to facilitate selection of correct hinges and pivots for each application. Includes cut-away views of the products with complete application and feature information, and blueprints showing all details. The book also includes threshold detail drawings, illustrated parts and parts lists, and suggested architects' specifications. Shelby Spring Hinge Co., Shelby, Ohio.

WHITEPRINTER

Speedmaster Whiteprinter. Bulletin 51S12. Bulletin describes manufacturer's Model "S" ammonia-type whiteprinter and points out new improved features, such as a new 2000 w high pressure mercury glass lamp and a newly devised blower system. Also covers other performance and operating details that facilitate making whiteprints in plant or office. Peck & Harvey, 5650 N. Western Ave., Chicago 45, Ill.

METAL WALL PANELS

Steelcraft Insulated Metal Wall Panels. Brochure gives description of the panels with illustrations of textures and colors available. Technical data, erection information and interior applications are also included along with complete specifications. Typical construction details are illustrated with technical drawings. 8 pp., illus. The Steelcraft Mfg. Co., Rossmoyne, Cincinnati, Ohio.

LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

Carl C. Ade, Architect-Engineer, 55 Canterbury Rd., Rochester 7, N. Y.

State of California, Department of Public Works. Anson Boyd, State Architect. Walter E. Lord, Supervising Specification Writer, Sacramento 5, Calif.

Thomas J. Riley, 203 Fourth St., Fall River, Mass.

K. Sawdy, Student, 532 Princes Highway, Rockdale, N.S.W., Australia.

Kenneth McCoy Scott, Architect, Box 10381, Raleigh, N. C.

WARM DRY FLOORS

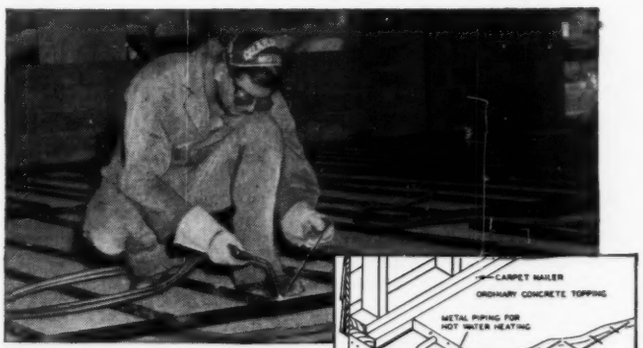
for ALL basementless construction!

NOW! ZONOLITE® OFFERS THE BUILT-IN BENEFITS OF INSULATION, FIRE-SAFETY, LIGHT WEIGHT AND PERMANENCE...

IN 2 GREAT CONCRETE PRODUCTS

NEW

ZONOLITE Vermiculite Concrete!



Under radiant heat pipes for more efficient operation and control.

Lightweight, insulated and permanent, ZONOLITE Vermiculite Concrete is ideal for roof decks, roof insulation, cavity-wall fill and insulating floors on the ground. Perfectly suited as a base for radiant heat systems...or where an exposed concrete floor is desired, ZONOLITE with a sand-concrete topping provides high insulating efficiency, cuts heat loss.

ZONOLITE Sand Concrete!

Ideal for one-pour floors on grade, lightweight upper story floors.

Resilience approaching wood floors! Use as fill over structural floors, for floor slabs over closely spaced joints, or for floor slabs on the ground. Has 4½ times the insulating value of ordinary concrete —½ the weight. Fireproof, permanent. ZONOLITE Vermiculite Sand Concrete is ideal as a base for tile, linoleum, terrazzo or carpeting—needs no topping.

ZONOLITE BRAND VERMICULITE INSULATION

FREE BOOKLET FOR ARCHITECTS AND BUILDERS

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Please send me NEW Booklet CA-4, "Floor Slabs and Floor Fill," with complete information and specifications on ZONOLITE Vermiculite Concrete and new ZONOLITE Sand Concrete.

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Firm.....
Address.....
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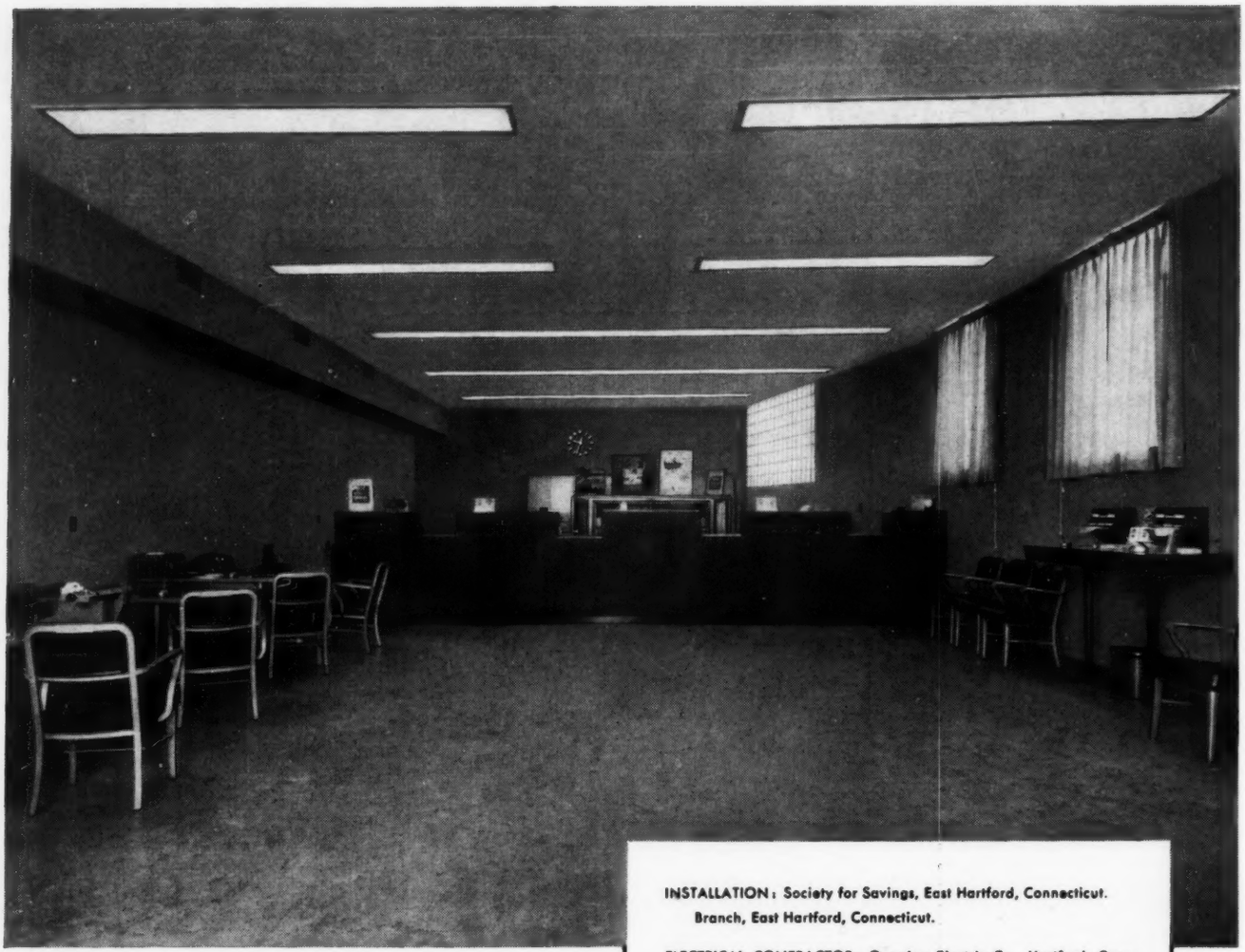
☐ Architect ☐ Contractor ☐ Other.....



INSTALLATION: Society for Savings, East Hartford, Connecticut. Branch, East Hartford, Connecticut.

ELECTRICAL CONTRACTOR: Gunning Electric Co., Hartford, Conn.

FIXTURES: Litecontrol No. 5924 2 lamp slimline recessed troffers, 4' long, using No. 9015 Holophane Low Brightness Lens.

SPACING: 9'-0" on centers.

CEILING HEIGHT: 9'-6" approximately.

INTENSITY: 50 Footcandles average in service, over work area.

What Time is it?

It's twenty-five to ten by the clock on the back wall there. Easy to read isn't it? Yet it's over 50 feet away. No glare or sharp contrasts to cut down your vision.

LITECONTROL Fixture 5924 and smart planning lift this lighting installation out of the ordinary. There is little exposed brightness because the fixtures are recessed, with Holophane 9015 Low Brightness Lenses.

Crosswise layout of lamps increases apparent width of the bank. Continuous lighting lines concentrate intensity over the work areas. Broken lines furnish all that's needed over the light colored floors.

The entire layout — lighting, painting and simple arrangement of furniture — produces a clear, workable, comfortable room.

NOTE — LITECONTROL Fixture 5924 provides unusual efficiency, simple installation and maintenance.

For more information on this and other LITECONTROL Fixtures write for catalog, today.

LC

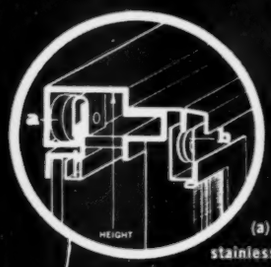
LITECONTROL *Fixtures*

KEEP UPKEEP DOWN

LITECONTROL CORPORATION, 36 Pleasant Street, Watertown 72, Massachusetts

DESIGNERS, ENGINEERS AND MANUFACTURERS OF FLUORESCENT LIGHTING EQUIPMENT DISTRIBUTED ONLY THROUGH ACCREDITED WHOLESALERS

Top Roller-Hung

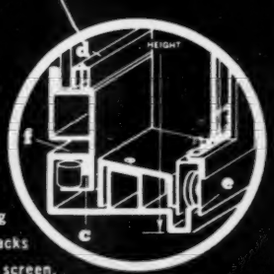


(a) overhead stainless steel ball bearing roller moves on precision track without side-play (b) spring-loaded upper ball bearing roller guide for easy screen installation.

STEELBILT

where design incorporates sliding glass doorwalls Steelbilt's patented TOP ROLLER-HUNG frames offer decided advantages: threshold is flush with inside floor—and leakproof without auxiliary weatherstripping . . . all sliding mechanism is housed and weather protected . . . sliding action is incomparable.

Write for details on Steelbilt's top and bottom roller types with matching windows. Also ask for "Steelbilt & The 1953 Case Study House," a 20-page editorial reprint from the magazine Arts & Architecture.



(c) weathertrap sill design is leakproof (f) finish sill line flushes with inside floor (d) rocker-type glazing bead with screw adjusted spring action (e) factory installed screen tracks for bottom rolling screen.

Steelbilt, Inc.

Gardena, California

GENERAL OFFICES OF CONSOLIDATED BUILDERS, INC., BEVERLY HILLS, CALIFORNIA · EDWARD H. FICKETT, AIA, ARCHITECT

THE RECORD REPORTS

WASHINGTON

(*Continued from page 40*)

terioration and obsolescence will create a need for an additional 425,000 classrooms and related facilities by 1960, the report estimated. About 36,000 are in some stage of construction at this time.

The report contained the now-familiar warning that school construction is not keeping pace with classroom needs, although school construction continues to set new records — 47,000 new classrooms in 1951, 50,000 in 1952 and about the same number expected this year.

The 1953–54 academic year will find the largest number of students in history enrolled — 39,949,700, an increase of two million over 1952–53.

Commissioner Thurston estimated that the country would be short approximately 345,000 public elementary and secondary school classrooms this fall. Three out of every five will be overcrowded. And one out of every five pupils is attending school this fall term in a schoolhouse which does not meet minimum fire safety conditions.

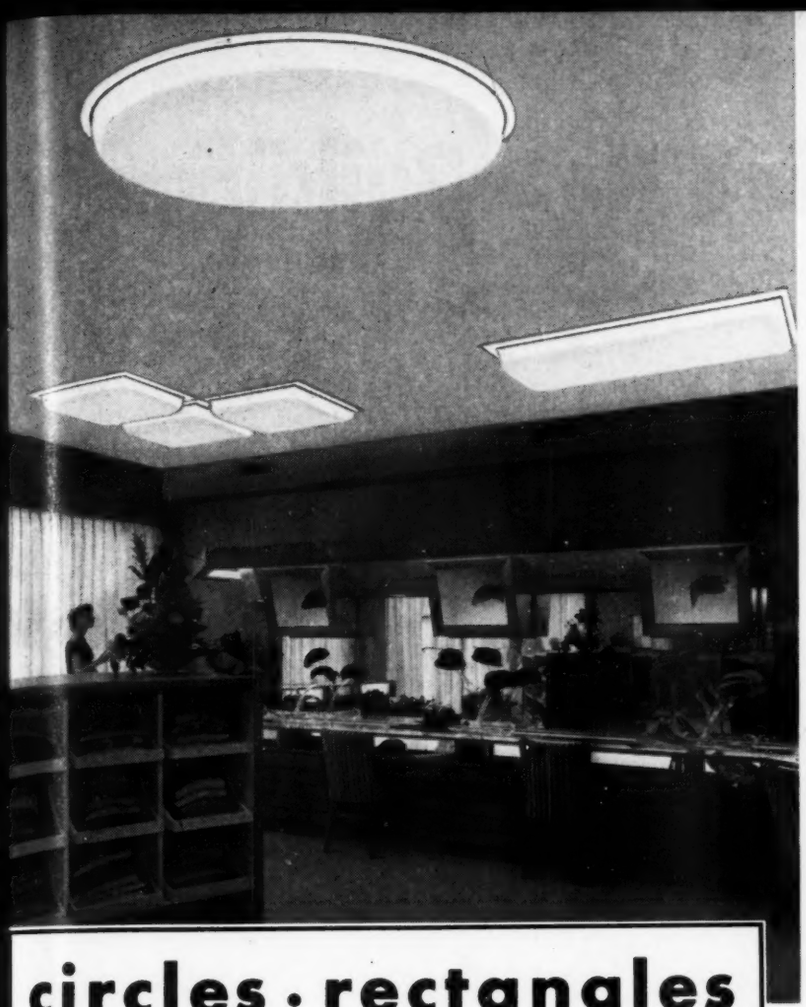
NO HHFA HELP ON SLUMS FOR CITY LAX ON CODES

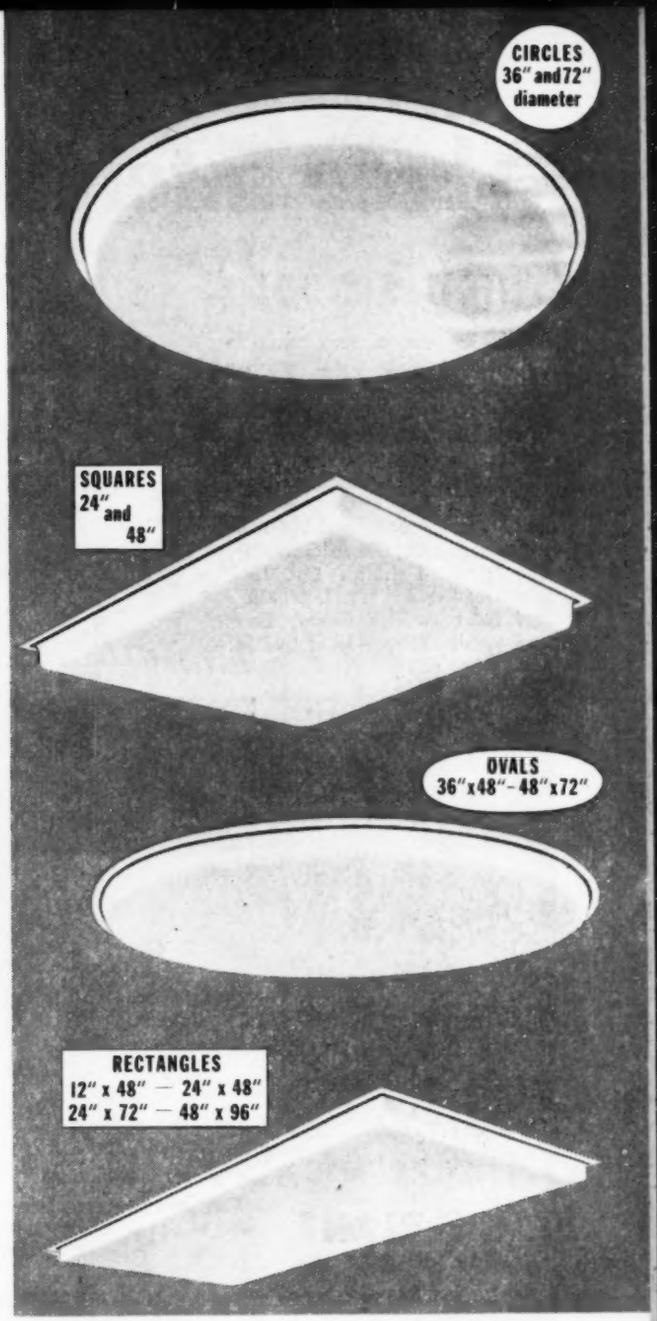
Those cities planning on slum clearance projects and Federal government aid without enforcing their own building codes will have to change their tune or go without help from Washington.

There's a new approach to the subject of doling out Uncle Sam's money for grants and loans in the slum clearance and urban redevelopment division of the Housing and Home Finance Agency. This division is now headed by James W. Follin, Federal government career man well known to the construction industry.

The recent session of the Congress laid down a mandate for housing officials. They were to see to it that local communities displayed a plan of action and a willingness to tackle their own slum problems before their applications for Federal help were approved. This was not a new line, for previous laws had admonished HHFA to consider the efforts of localities to enforce their own building codes. But it served as a point on which the slum clearance division

(*Continued on page 300*)





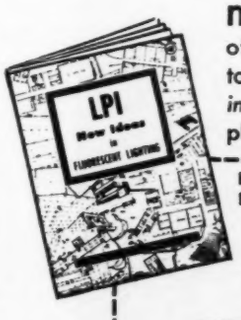
circles · rectangles ovals · squares in beautiful Plexiglas*

LPI VARIFORM

LIGHTING PRODUCTS, INC., HIGHLAND PARK, ILL.

Shown here is a new and dramatic development in fluorescent lighting—a dream come true for architects and lighting engineers! The VARIFORM uses soft, lovely, molded Plexiglas—in a range of shapes and sizes up to eight feet in length! When recessed, only the luminous Plexiglas is visible; when surface-mounted, depth is only 6¼" from ceiling line. Squares and rectangles can be surface mounted or recessed. Circles and ovals avaiable in surface type only, VARIFORM shapes combine harmoniously with recessed troffers, incandescent down-lights, and other standard equipment. Think of the original effects you can achieve with this versatile luminaire — the LPI VARIFORM.

*reg. trade name of Rohm & Haas



mail coupon now for complete set of VARIFORM drawings and specifications, together with latest LPI catalog, "*NEW IDEAS in Fluorescent Lighting,*" fully illustrated with photographs and drawings.

Lighting Products, Inc.
Dept. K Highland Park, Illinois

Please send me, FREE and without obligation, complete set of VARIFORM drawings and latest LPI Catalog.

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FIRM NAME _____

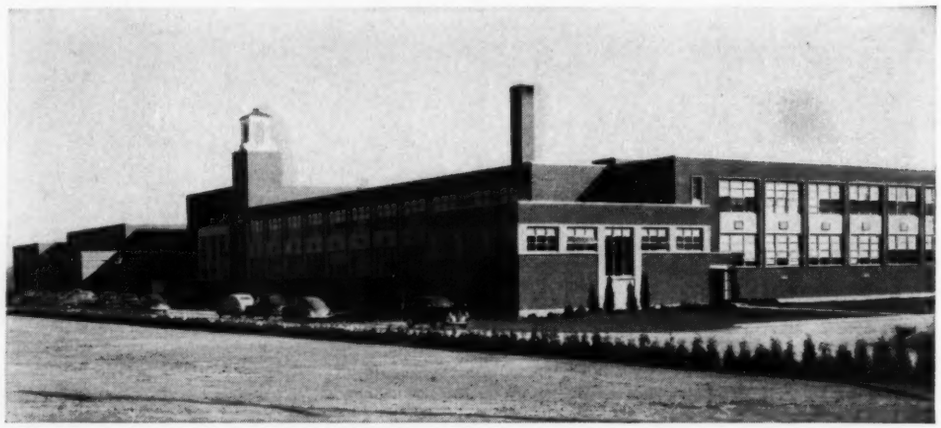
ADDRESS _____

CITY _____ ZONE _____ STATE _____

Three Interesting New Buildings

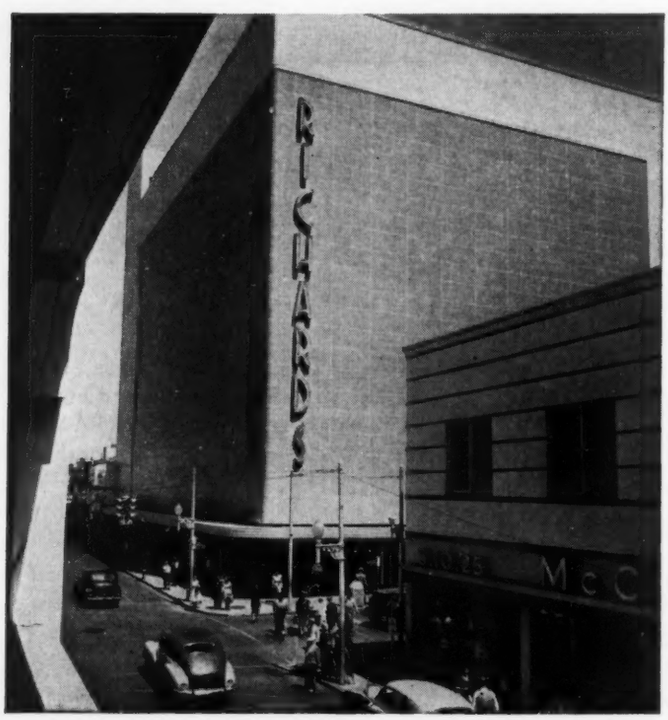
HIGH SCHOOL

Typical of the modern trend in buildings for educational purposes is the recently completed Clarence Central Junior-Senior High School, Clarence, N. Y. The two-story brick structure has complete facilities for 700 students. Its steel framework is made up of nearly 450 tons of Bethlehem Structural Shapes. *Architect:* Paul H. Harbach; *General Contractor:* The W. F. Hendrich Co., Inc.; *Structural Engineer:* T. H. McKaig; *Steel Fabricator and Erector:* Ernst Construction Corp.—all of Buffalo.



TANK PLANT

This attractive manufacturing building is the new Budd tank plant, located in Philadelphia. Its facing of red brick covers a 3000-ton steel framework built of Bethlehem Structural Shapes. *Architects and Engineers:* Giffels & Vallet, Inc., L. Rossetti, Detroit; *Steel Fabricator and Erector:* Belmont Iron Works, Philadelphia.



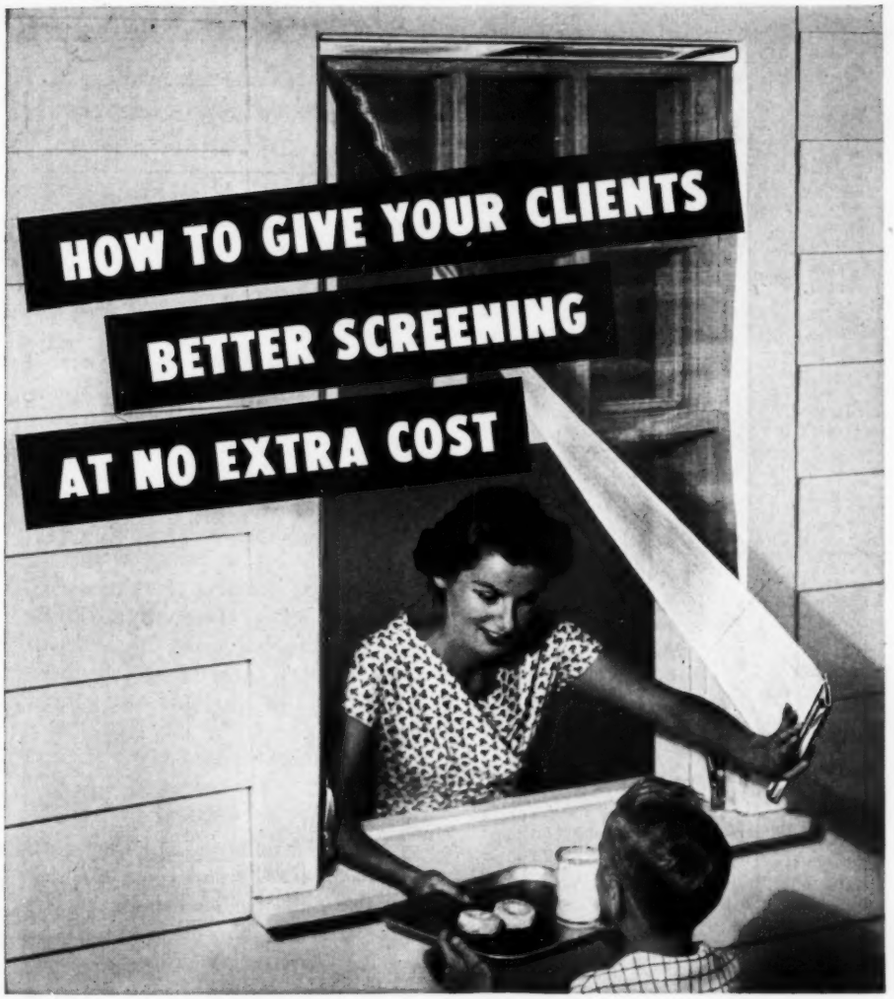
DEPARTMENT STORE

This striking and original structure is the Richards Department Store, one of the favorite shopping places in Miami. Some 500 tons of Bethlehem Structural Shapes were used in building its steel framework. *Architects:* Steward & Skinner; *Structural Engineers:* Jorgensen & Schreffler; *General Contractor:* Fred Howland, Inc.; *Steel Fabricator and Erector:* Bushnell Steel Products, Inc.—all of Miami.

BETHLEHEM STEEL COMPANY
BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM STEEL



with Columbia-matic TENSION SCREENS

GIVE THE HOMES YOU DESIGN the benefit of better screening protection. Columbia-matic Tension screens are the newest, safest, most modern way to screen a double-hung window. They are the only screens on the market offering automatic tension! And, they cost less than old-fashioned, carpenter-fitted, wooden screens. Columbia-matics are the perfect complement to modern double-glazed windows.

These are the Columbia-matic features home buyers go for:

Save time—Easy to put up and take down from inside. Anyone can do it in seconds. Easily swings free for dusting sill or washing window.

Save work—No more struggling with clumsy wooden frames or ladders. Columbia-matics have top and bottom rails only. Roll up for compact storage.

Save money—All rustproof aluminum. No drip stains on house. No painting, maintenance. Full-length aluminum mesh gives complete insect protection.

Only Columbia-matic gives AUTOMATIC TENSION

Patented bottom rail is spring-loaded . . . automatically puts right amount of tension on screening. Keeps it drum-tight to blind stops at all times . . . automatically compensates for unevenness in sill; temperature changes. Screen can't sag or ripple. Easy-open tension locks anchor screen firmly; flip up to open. Side-mounted, no hardware on sill to snag clothing. Another Columbia-matic exclusive.

Here's how Columbia-matics save on initial cost:

Precut to specification. Perfect fit assured. No fitting. Can't swell, stick, warp. All rustproof aluminum.

Easily installed. Ready to mount from inside. Only 7 screws. No template.

Cost less than ordinary, full-length screens. Installation time is cut to a fraction of that for wooden screens. Takes an inexperienced man less than 5 minutes. No painting.

16,000 Columbia-matics!

Mr. Clifford O. Boren, President, San Diego Building Contractors' Association, says:

. . . "We have used 16,000 Columbia-matic Screens in our Redwood and Hubner developments. We have found them completely satisfactory. Not only do our customers like them, but they save us considerable on installation costs . . ."

Clifford O. Boren
President,

Clifford O. Boren Contracting Co., Inc.

Get the facts on Columbia-matics NOW

Columbia Mills, Inc.
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Please send complete details and specifications on Columbia-matic Tension Screens.

Name_____

Address_____

City_____

Zone_____ State_____

THE RECORD REPORTS

WASHINGTON

(*Continued from page 296*)

now can hinge its insistence that local communities fight blight vigorously on their own, or forego Federal funds to purchase and demolish the rundown areas.

Mr. Follin said, however, that even if the order had not come from Congress this year, his division would have examined local efforts closely to make certain that applicants were in good faith moving in on their own slum problems. This is being done now before any approvals of loans or grants in the big $1500 million program are announced. Said Mr. Follin: "If we are to win the battle against slums, almost every city in the country needs to tighten up on code enforcement and to recognize it has the broadest kind of responsibility to prevent neighborhood deterioration."

Cole Backing Strong

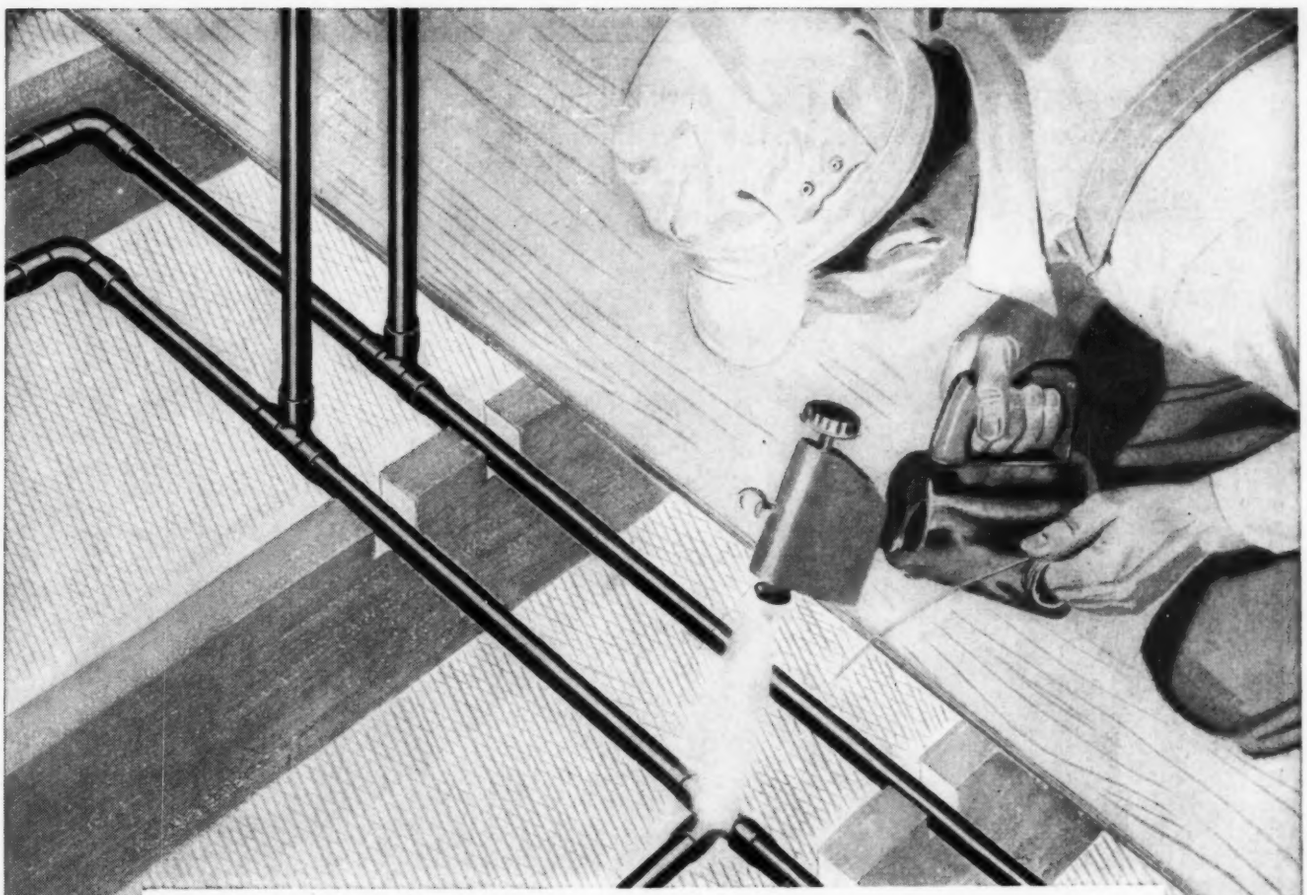
Housing Administrator Albert M. Cole backs his division head one hundred per cent. He has said he favors strongly a program of pressure by local communities on their property owners who have been letting housing run down in violation of their own regulations.

The slum clearance division has already made its first important move toward its new goal. It sent letters to 70 cities, where 92 projects are involved, requesting more information detailing the city's initiative. This move covered all cities with applications pending for loan and grant contracts or planning advances. They were asked to submit the following to HHFA:

(1) A signed statement by the mayor (or city manager) of the locality outlining the positive programs in force in the community for the enforcement of local codes and regulations relating to adequate standards of health, sanitation and safety for dwellings. The statement was to describe the authority, machinery, personnel and funds utilized in such programs.

(2) A copy of a resolution adopted or statement approved by the local public agency's governing board reciting findings and conclusions as to the feasibility of achieving slum clearance objectives in the area covered by the application through the rehabilitation of existing dwellings and the area.

(*Continued on page 304*)



CHASE® copper water tube *goes in for good!*

See that shiny Chase Copper Water Tube! Smart plumbers choose it every time. They know it's lightweight, easy to handle, and *it makes satisfied customers for years to come.*

Chase Copper Water Tube is corrosion-resistant . . . *won't clog with rust* and always gives a full flow of rust-free water.

Chase Copper Water Tube and Chase Solder-Joint Fittings are a combination that just can't be beat for hot and cold water lines, radiant panel heating and for drainage lines, too. Sold by Chase plumbing and heating wholesalers.

Chase® BRASS & COPPER

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Baltimore	Denver†	Milwaukee	Pittsburgh	Waterbury
Boston	Detroit	Minneapolis	Providence	
Chicago	Houston	Newark	Rochester†	(†sales
Cincinnati	Indianapolis	New Orleans	St. Louis	office only)

"The appearance of the exterior of our building is greatly enhanced and the load on the air-conditioning system is greatly lightened when (Goodall Casement) curtains are drawn tight against the sun."

George D Estes

Assistant Secretary,
New Hampshire Fire Insurance Co.

New Hampshire Fire Insurance Company Uses Goodall Casement Curtains Exclusively

The beauty and efficiency of the New Hampshire office building in Manchester, N. H., is supplemented with Goodall Casement Curtains. Like modern office buildings everywhere, New Hampshire chose Goodall for these superior features:

APPEARANCE—Goodall Casements come in a rich variety of weaves, colors, and textures . . . give the soft appearance of draperies.

TEMPERATURE CONTROL—Goodall Casements are highly reflective . . . bounce back the sun's hot visible and infra-red rays. This eases the load on air-conditioning systems . . . aids in keeping non air-conditioned offices cooler, more comfortable.

LIGHT CONTROL—Goodall Casements diffuse sunlight into soft, glareless light that helps provide better working conditions at maximum distance from windows.

NOISE CONTROL—Goodall Casements absorb noise. The sound of office machines, ringing telephones, voices, all are perceptibly muffled.

LONGER WEAR—Because Goodall is not married to any one fiber, Goodall Casement Curtains are *Blended-to-Perform*. That means they are composed of a variable blend of fibers...Angora Mohair, rayon, acetate, cotton and nylon . . . fibers chosen for their greater durability and lasting luxury.

EASIER MAINTENANCE—Dust virtually slides off the smooth surface of Goodall Casements. They resist wrinkling, stay fresh longer. They can be washed or dry cleaned thanks to multiple processes that minimize shrinking, sagging, stretching.

For full information write: Goodall Fabrics, Inc., Casement Division, 525 Madison Avenue, New York 22, New York

Goodall Fabrics Inc.

THE RECORD REPORTS

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(*Continued from page 300*)

Similar information will be requested on all new applications to be received.

With this data, HHFA will decide whether or not the application can be approved.

"We will know first," Mr. Follin said, "whether efforts are being made by the local governing body to enforce codes and regulations pertaining to health, sanitation and safety. If they are, then we will be in a position to proceed with the processing of the application under the code enforcement provision of the Act. Even after approval, however, there will be a continuing evaluation by HHFA of the progress of localities in enforcing and regulation.

"We will know, second, whether it is feasible to achieve the slum clearance objectives by rehabilitating existing dwellings and the area covered by the application. If the local public agency concludes that rehabilitation of the dwellings and the area is not feasible, it will have to present supporting data showing that the demolition or clearance of the dwellings is essential and that continued use of the dwellings would be a menace to the well-being of the community or its inhabitants."

The second point shows the extent to which the slum clearance division is going to stress the need for rehabilitation. Officials are increasingly fearful that many communities might be planning to rip out structurally sound housing in their zeal to rehabilitate areas. Perhaps much good housing is being destroyed, HHFA speculates, housing that could be remodeled and made safe and sanitary for habitation.

Cities planning projects will also have to look more closely to the accuracy of their presentations to HHFA. The agency says it is convinced that in some past instances local communities have sought to value their non-cash contributions out of proportion to the actual work to be done.

Some local bodies applying for help, it was said, have had no local codes at all, and others do not attempt to enforce what building regulations they have, or make only a half-hearted attempt. HHFA henceforth is going to watch these details more closely than in the past and will check carefully to

(*Continued on page 308*)

Framed By IMPERMANENT Pipe

When a home owner gets this view of his lawn and garden you can't blame him for feeling framed. Someone suggested saving a little money by using *non* cast iron pipe for his house sewer. Now it has to be dug up and replaced. That's expensive, and it doesn't do the flowers, shrubs and lawn a bit of good. You can prevent things like this. Home owners look to you for sound advice. Tell them, frankly, how the slightly higher first cost of **Cast Iron Soil Pipe** is really a sound investment in permanent satisfaction.

USE PERMANENT CAST IRON SOIL PIPE

This advertisement is sponsored by:

Alabama Pipe Company
American Brass & Iron Fdy.
Anniston Foundry Co.
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CAST IRON SOIL PIPE INSTITUTE
Dept. AR-10, 1627 K Street, N.W., Washington 6, D. C.

Please send me the literature I have checked

- ☐ Information on your new sound movie "Permanent Investment"
- ☐ Copy of consumer folder: "Plumbing Drainage"

Name_____

Address_____

City_____ Zone_____ State_____

2 Miles of Stores Standardize on Janitrol Unit Heaters

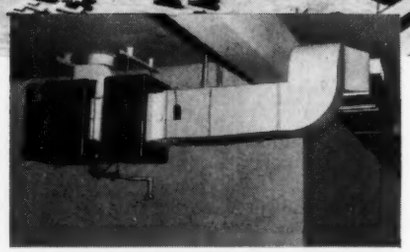
Mr. Irving Berger (standing) and Mr. Gilbert Tilles, leaders in shopping center design and construction, check plans for new project.

Since 1946 Berger & Tilles have completed 12 shopping centers to serve Long Island residents. These projects total 220 stores ranging from super-markets to gift shops . . . if fronted on one highway, they would comprise two continuous miles of stores.

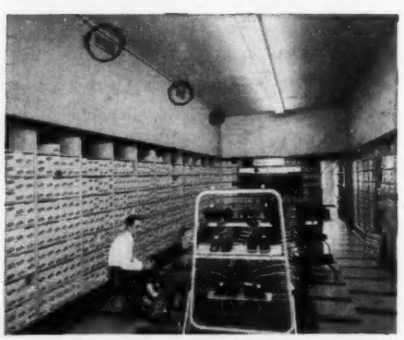
When asked about his preference for Janitrol gas-fired equipment, Mr. Berger stated, "Over a twelve year period renters and store operators have experienced trouble-free service, high heating efficiency and eliminated their maintenance problems."

Whether you plan to heat a store, warehouse, or industrial plant of any size or type, Janitrol Unit Heaters using any type gas including LP. can lower initial installation costs and assure your clients dependable performance.

Write today for "Businessman's Blue Book for Better Heating" for information on unit heater performance and best installation methods.



Blower type Janitrol unit designed for efficient heat distribution through duct system. Heating Eng. M. Prop. Htg. Cont. Metropolitan Sheet Metal Co., Elmhurst, L. I.



One of 25 stores in Cherrywood Shopping Center (shown in aerial photo) Wantagh, L. I. Warm air delivery registers are circled in photo above.

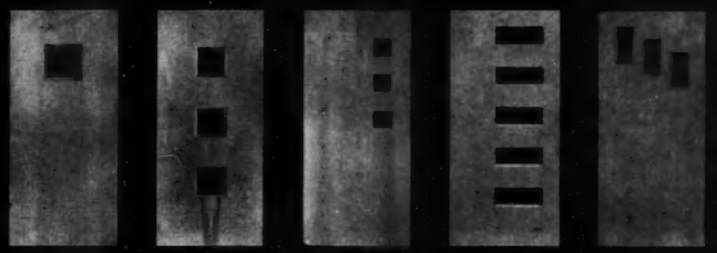
®Janitrol

GAS-FIRED UNIT HEATERS

SURFACE COMBUSTION CORPORATION, TOLEDO, OHIO

Also makers of Surface Industrial Furnaces and Kathabar Humidity Conditioning

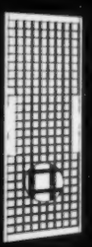
for beauty that keeps its shape...



"Curtis New Londoner" hollow-core flush doors are made of choice veneers in birch, maple, oak and other woods. For exterior use, the hollow-core flush doors and Curtis American solid-core doors provide a wide selection of interesting light openings. Here are some popular choices.

with the engineered backbone

4,000,000 successful installations have proved that "Curtis New Londoner" hollow-core flush door construction assures lasting freedom from faulty door performance. No other flush door offers so many built-in advantages as the "Curtis New Londoner."



Choose the door

When you choose hollow-core flush doors, be *sure* of customer satisfaction. Look up to the "backbone"—the core. Only in the "Curtis New Londoner" do you have the locked-in, all-wood *engineered* core that assures dimensional stability—for a lifetime. Every Curtis New Londoner door is one completely joined unit—nothing to "float" or get out of place—with 3-ply faces securely bonded to all parts of the core. Owners will praise you for selecting these doors that don't stick, warp or sag!

CURTIS NEW LONDONER
HOLLOW-CORE FLUSH DOORS

Curtis also manufactures the famous "American" solid-core flush door with kiln-dried core. Face panels are phenolic bonded. Available in extra widths for school, hospital and institutional use.

For complete information, see "Curtis New Londoner" section in SWEET'S Architectural Catalog—or mail the coupon.

Curtis Companies Service Bureau
Dept. AR-10, Curtis Building
Clinton, Iowa

I want to know more about Curtis New Londoner and Curtis American flush doors.

Name.....

Address.....

City.....*State*.....

THE RECORD REPORTS

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(*Continued from page 304*)

see that local contributions represent in actual value the amount required by law.

Under the slum clearance and urban rehabilitation program, HHFA makes gifts of cash to local agencies amounting to two thirds of the net cost of the contemplated project. Local and state funds or services pay for the balance. Other funds can come from Uncle Sam on a loan basis. The net project cost is described as the difference between the total cost and the amount that would be received through resale of the land following clearance.

In the first three years of operation under Title I, the slum clearance and urban redevelopment program saw a wide variety of uses planned for cleared land. These included housing, education, recreation, transportation, commerce and industry. All along, the Congressional intent has been that redevelopment would be accomplished primarily by private developers to whom the cleared land is made available at fair value by sale or lease. And it has been so interpreted by HHFA.

MILITARY CONSTRUCTION: A NEW BOSS TAKES OVER

A new Defense Department directive has rescinded earlier directives establishing the Office of the Director of Defense Installations and the Armed Forces Housing Agency. The functions of these two divisions of the defense setup have been incorporated under the new assistant secretary for properties and installations, Franklin G. Floete, who thus succeeds to the responsibilities formerly held by Frank R. Creedon as director of defense installations and Thomas Coogan as head of the Armed Forces Housing Agency. He is one of six new assistant secretaries added to the defense staff under Reorganization Plan Six.

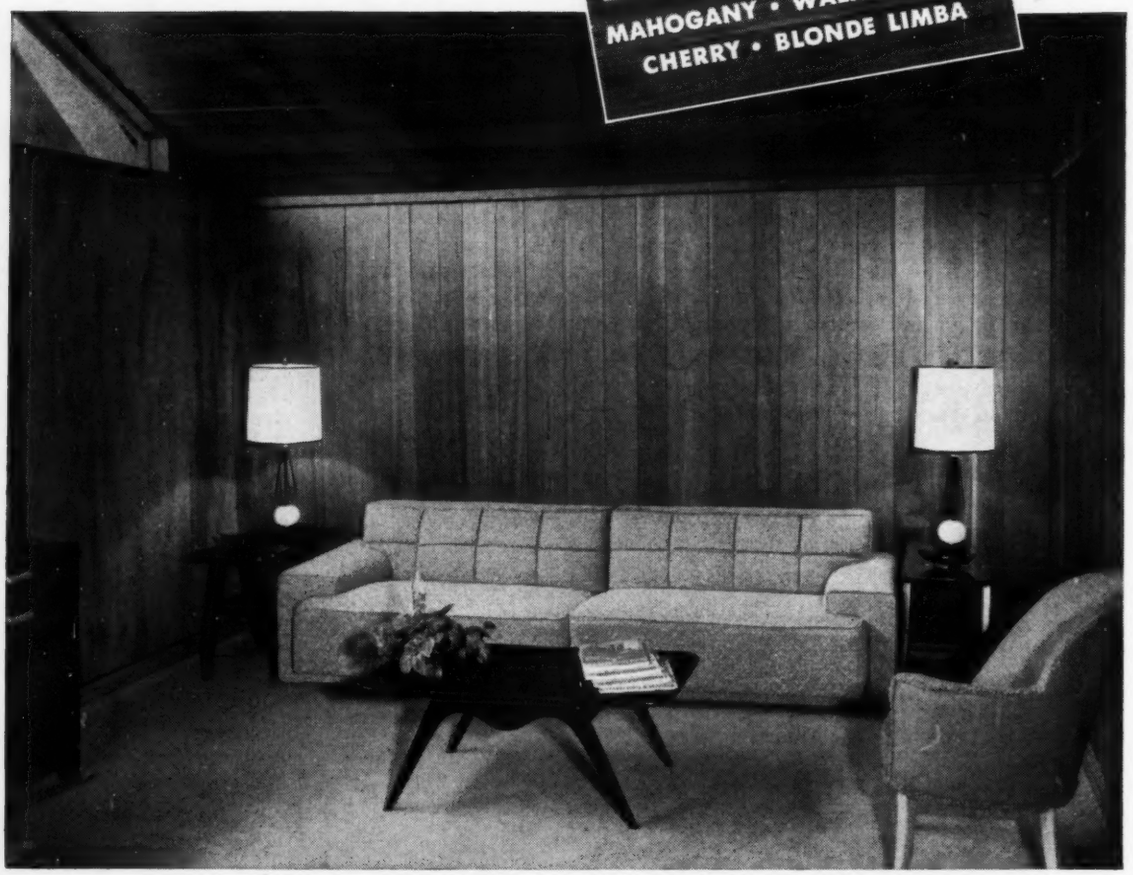
Mr. Floete, a former Des Moines, Ia., businessman, wields extremely broad powers in the military public works area. He can, for example, change established policies or procedures, with the approval of the Secretary of Defense; and the implementation of these changes must be carried out by the armed forces Secretaries.

(*Continued on page 312*)

ACCLAIM COMES NATURALLY TO INTERIORS FINISHED WITH

Roddiscraft PANAWALL

MAHOGANY • WALNUT • OAK
CHERRY • BLONDE LIMBA



The best of today's paneling adds the beauty of expensive woods to interiors — at low cost!

You create more *beautiful* interiors — interiors of *lasting* beauty — when you specify Roddiscraft Panawall! It's the sensational new V-grooved, random width, hardwood plywood paneling that lets you add rich wood walls without adding excessive costs. Panawall is easily installed — requires no matching — saves time in completing interiors. And *that* reduces costs!

Panawall ends owners' decorating problems!

Panawall ends costly repainting and repapering. It actually saves money through the years. The easy-to-handle 4′ x 8′ x ¼″ panels can be installed directly on the studs in new construction, or over existing walls in remodeling.

Get the facts on Panawall now!

Ask your nearest Roddiscraft warehouse for complete information on Panawall and other Roddiscraft decorative paneling: Craftwall, Parquetwall, Cedrela and Plyweave. He'll be glad to show you samples.

Roddiscraft
RODDIS PLYWOOD CORPORATION
Marshfield, Wisconsin

NATIONWIDE Roddiscraft WAREHOUSE SERVICE

Cambridge 39, Mass. .....229 Vassar St.
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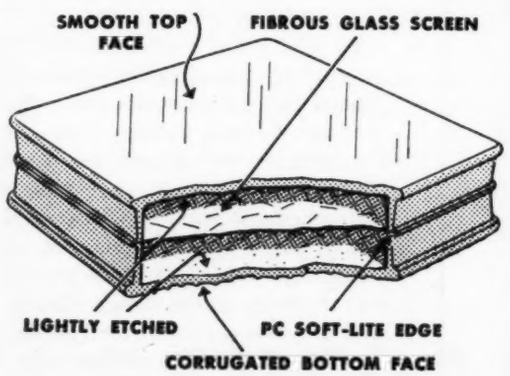
Cleveland 4, Ohio .....2717 E. 75th St.
Dallas 10, Texas .....2800 Medill St.
Detroit 14, Mich. .....11855 E. Jefferson St.
Houston 10, Texas .....2403 Sabine St.
Kansas City 3, Kan. .....35 Southwest Blvd.
Los Angeles 58, Cal. ....2620 E. Vernon Ave.
Louisville 10, Ky. .....1201-5 S. 15th St.
Marshfield, Wis. .....115 S. Palmetto St.
Miami 38, Fla. .....255-315 N.E. 73rd St.
Milwaukee 8, Wis. .....4601 W. State St.
New Hyde Park, L. I., N. Y. .....1756 Plaza Ave.
New York 55, N. Y. .....920 E. 149th St.
Port Newark 5, N. J. .....103 Marsh St.
Philadelphia 34, Pa. ..Richmond & Tioga St.
San Antonio 6, Texas .....727 N. Cherry St.
St. Louis 16, Mo. ....3344 Morganford Road
San Francisco 24, Cal. ..345 Williams Ave.
San Leandro, Cal. .....720 Williams St.

Pour daylight through the roof . . .

with SKYTROL* Glass Blocks

SKYTROL Glass Block panels bring light in the *natural* way—from the ceiling. They brighten the farthest reaches of the room.

SKYTROL blocks are flexible. They can be laid right on the job and require no special orientation. The architect is free to create practical toplighting panels of virtually any size.



DIMENSIONS: 3⅞" THICK X 11¾" X 11¾"

*T.M. Reg. Applied for

● Today's trend is toward one-story buildings. As building design tends to "flatten-out," daylighting becomes a problem in the interior rooms.

The logical answer . . . *toplighting.*

SKYTROL Glass Blocks will insure that even the innermost rooms are bathed in daylight. One small six-block-wide panel puts thirty foot candles on a working surface eight feet from the panel centerline even on an *overcast* day.

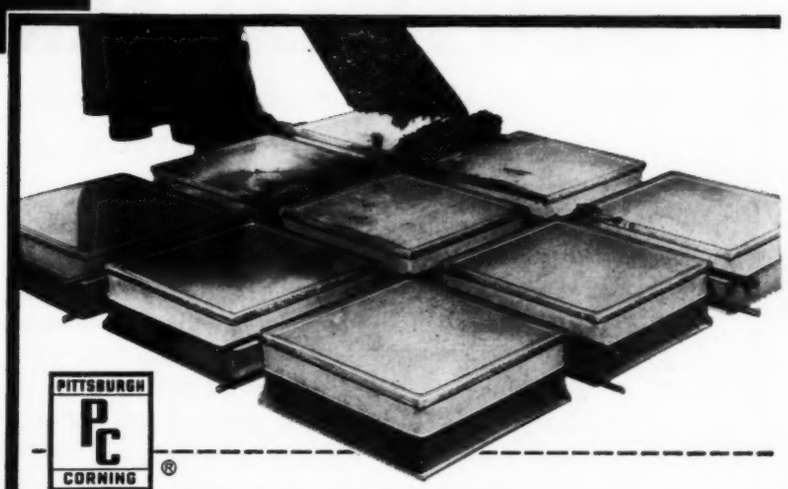
But even more important than the quantity of light is the excellent *quality* of the light that pours in from SKYTROL panels. Here is light that is glare-free; without highlights or uncomfortable brightness . . . light that is almost shadowless. SKYTROL Glass Blocks gather in raw, harsh sunlight; then they bend it and *diffuse* it until it is perfectly conditioned for all seeing tasks.

A fibrous glass diffusing screen that divides the block into two halves is the key to its solar heat gain control. The double cavity thus created provides an insulation value better than most uninsulated roof constructions. This virtually eliminates condensation problems.

There are a lot of interesting things we'd like to tell you about SKYTROL. Just fill in the coupon.

Pittsburgh Corning Corporation

PITTSBURGH, PENNSYLVANIA



PITTSBURGH PC CORNING ®

Pittsburgh Corning Corporation
Dept. C-103, One Gateway Center
Pittsburgh 22, Pa.

Send me more information on PC SKYTROL Blocks for toplighting.

Name.....

Firm.....

Address.....

City.....Zone....State.....

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(*Continued from page 308*)

Under the terms of the directive issued by Secretary of Defense Charles E. Wilson, Mr. Floete will develop uniform design criteria and construction standards for application in the public works construction programs "as may be determined to be in the interest of economy and effective utilization."

His duties also include:

- Providing basic instructions and planning assumptions for the preparation and submission of public works construction programs by the military departments.

- Reviewing and integrating public works construction programs of the military departments to assure that they are fully justified as to need in relation to strategic requirements, effective as to intended purpose and economical as to cost, type of building and location.

- Recommending public works construction programs for the Department of Defense.

- Making such post-authorization and post-appropriation determinations, including approval of programming and recommended apportionment, as may be required to permit the orderly and efficient accomplishment of the programs.

- Determining, after consultation with the assistant secretary (Comptroller) that emergency construction, as provided under Section 612 of the Department of Defense Appropriations Act for 1954, is urgently required in the interest of national defense.

To Mr. Floete's office will fall the duty of developing uniform plans and policies for the provision and administration of family housing of the services, both in this country and abroad. He is also charged with developing design standards and cost criteria for family housing, both permanent and temporary — although the Budget Bureau recently issued design standards for family housing for Federal personnel which it claimed were mandatory in their application to military family housing as well as other Federal units.

(*More news on page 316*)

New G-E clamped core ballast free of enclosure restrictions

Combination 14–15–20-watt unit for home fluorescent fixtures gives you all these advanced design features:

UNDERWRITERS' LABORATORIES have listed this G-E clamped core ballast without any restrictions on the type of fixture which encloses it. This means you can save money by specifying this unit for applications which previously required an encased, compounded unit for U.L. listing.

SMALLER, LIGHTER clamped core design eliminates bulky, compound-filled case, reduces weight and cost of your fixtures.

UNIVERSAL MOUNTING clamp has mounting ears on both side and bottom. Slot-shaped mounting holes permit use of "punched ears" for mounting, allow wider choice in locations of fixture mounting holes.

QUIET OPERATION, so important in home lighting fixtures, results from small size, efficient design, and precision manufacturing techniques.

WIDE APPLICATION helps you simplify your stocking and ordering. This 14–15–20-watt ballast, used singly or in combination, actually replaces up to nine previous G-E ratings for single-, two-, and three-lamp operation.

COMPLETE LINE of G-E clamped core ballasts for small fluorescent lamps includes both enclosed and unenclosed units, combination ratings for 4–6–8-watt and 14–15–20-watt lamp operation. Ballasts for 22-watt circline lamps and 4-watt ozone lamps are also available.

GET FULL INFORMATION about G.E.'s clamped core ballasts. Contact your nearest G-E Apparatus Sales Office or authorized G-E distributor today. Or write for new bulletin GEA-6040 to Section 412–109, General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

THE TREND IS TO AWNING  WINDOWS

Everywhere

HERE ARE JUST A FEW OF THE MANY HOSPITALS EQUIPPED WITH LUDMAN WINDOWS . . .

Mercy Hospital
Brinkley, Arkansas

O'Conner Hospital
San Jose, California

Veteran's Memorial Hospital
Lynnwood, California

Imperial Valley Hospital
El Centro, California

Elsworth County Veteran's Memorial Hospital
Elsworth, Kansas

McGaw Memorial Hospital
Field House
Evanston, Illinois

Spahn Hospital
Corpus Christi, Texas

Victoria Hospital
Miami, Florida

Miami Valley Hospital
Dayton, Ohio

Grandview Hospital
Dayton, Ohio

Women's Convalescent Home
Ft. Supply, Oklahoma

Dover General Hospital
Dover, New Jersey

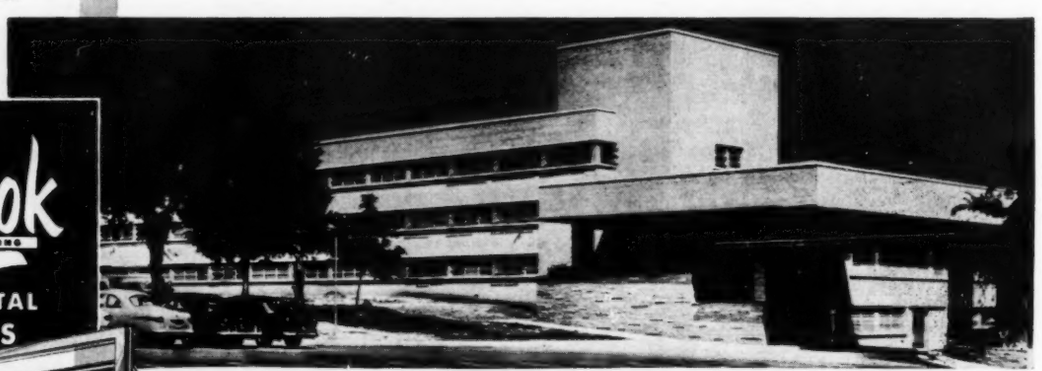
Anson General Hospital
Anson, Texas

St. Michael's Hospital
Grand Forks, North Dakota

in all 48 states, the popularity of Ludman Special Hospital Windows is increasing!

From Washington to Florida . . . Maine to California—more hospital officials are demanding and architects are specifying Ludman Special Hospital Windows. Here's why! Ludman Auto-Lok windows give you complete all-weather ventilation control! They open wider. They close tighter . . . seal shut ten times tighter than generally accepted standards. Each vent *locks* automatically at *all four* corners when closed. They help air-conditioning and heating equipment to operate more efficiently. They're easier to regulate . . . easier to operate . . . easier to control to obtain just the proper ventilation for patients comfort.

LUDMAN Auto-lok AUTOMATIC LOCKING PATENTED
SPECIAL HOSPITAL WINDOWS



Methodist Hospital Nurses Dormitory, Dallas, Texas
George L. Dahl, Architect

Busy nurses appreciate Ludman Special Hospital Windows because they operate so easily, so smoothly—with only a finger-touch!

Hospital Officials! Architects! Write for complete descriptive catalog

LUDMAN *Corporation*

Box 4541, Dept. AR-10, Miami, Florida

LUDMAN LEADS THE WORLD IN WINDOW ENGINEERING

J. P. Stevens & Co., Inc., Office and Textile Laboratory, Greensboro, N. C.

distinctive design

Architectural concrete slabs help textile firm look "at home" in residential district

Blending this laboratory and office building with its suburban surroundings was a public-relations problem the architect solved with the help of architectural concrete slabs. Made with special aggregates in a matrix of Atlas White Cement, the white and light buff pre-cast sections provide an attractive setting for other textures and colors . . . enhance the over-all beauty of the structure.

There's economy, too. The large, comparatively lightweight construction units reduce building time and labor, speed occupancy, and provide outstanding durability for a minimum of future maintenance. These versatile facing slabs offer the utmost in design flexibility . . . are tailor-made with appropriate aggregates and pigments to secure the color, texture and form desired. Because Atlas White Cement is a true, uniform white, it enhances the rich color values of both pigments and aggregates.

Atlas White Cement complies with ASTM and Federal Specifications. If you would like to have further information, see SWEET'S Catalog, Section 12g/Un and 3d/Un, or write Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

DURABLE 4' x 5' sections of architectural concrete offer design facility unmatched by other materials. Raised white letters were cast with individual slabs on reddish-brown background. Architect: Charles C. Hartmann, General Contractor: C. M. Guest & Sons, Mo-Sai pre-cast slabs by: Mabie-Bell Co.—all of Greensboro, N. C.

THE RECORD REPORTS

(*Continued from page 312*)

ON THE CALENDAR

Oct. 1–4: First convention and exposition, New York State Home Builders Association — Waldorf-Astoria Hotel, New York City.

Oct. 4–25: Exhibition of "Contemporary Swiss Architecture," assembled by Alfred Roth — Addison Gallery of Art, Andover, Mass.

Oct. 5–7: Fall meeting, American Association of Mechanical Engineers — Hotel Sheraton, Rochester, N. Y.

Oct. 5–9: National Hardware Show — Grand Central Palace, New York City.

Oct. 5–9: Semiannual Conference, Society of Motion Picture and Television Engineers — Hotel Statler, New York City.

Oct. 6–8: Fourth Industrial Electric Exposition — William Penn Hotel, Pittsburgh.

Oct. 6–8: Annual Convention, National Hardwood Lumber Association — Hotel Sherman, Chicago.

Oct. 6–9: Second Annual International Churchman's Exposition — Coliseum, Chicago.

Oct. 6–9: 31st Annual Business Meeting, Pacific Coast Building Officials Conference — Pasadena, Calif.

Oct. 8: The Status of the Arts at Mid-Century; first of a series of forums on "The Impact of Science and Materialism on the Arts Today" — Architectural League of New York, 115 E. 40th St., New York City.

Oct. 8–9: American Council on Education — Washington, D. C.

Oct. 8–10: Convention of New York State Association of Architects — Lake Placid Club, Lake Placid, N. Y.

Oct. 8–10: Annual convention of the Structural Engineers Association of California — Ahwahnee Hotel, Yosemite, Calif.

Oct. 9–11: American Institute of Architects Northwest Regional Convention — Sun Valley.

Oct. 11–15: Annual meeting, American Society of Planning Officials — Hotel Statler, Detroit.

Oct. 11–16: 83rd Congress of Correction, American Prison Association — King Edward Hotel, Toronto, Ont.

Oct. 13: Semiannual Meeting, Steel Joist Institute — The Greenbrier, White Sulphur Springs, W. Va.

Oct. 13–16: Annual Convention, National Association of Housing Officials — Hotel Schroeder, Milwaukee, Wis.

Oct. 14–16: Annual convention, Architects Society of Ohio — Pick-Ohio Hotel, Youngstown, Ohio.

Oct. 14–17: Convention of the California Council of Architects — Coronado Hotel, San Diego, Calif.

Oct. 14–17: Engineers' Council for Professional Development — Hotel Statler, New York City.

Oct. 15–17: Central States Regional Conference, American Institute of Architects; theme: "That Human Being Called the Client" — Hotel Savery, Des Moines.

Oct. 16–18: Annual Design Conference, Society of Industrial Designers — Bedford Springs, Pa.

Oct. 16–Jan. 4: Exhibition, Designer Craftsman U.S.A. 1953 — Brooklyn

(*Continued on page 320*)

Who gets blamed when a FIREPLACE smokes ?

IF fireplaces were built exactly the way you design them, they'd never smoke. But who gets blamed if there's trouble? Many times it's the architect.

Assures correct construction. The Heatilator unit is engineered according to established and proved principles of fireplace design. In one compact unit, it provides all vital fireplace parts. It standardizes and simplifies construction, and saves architectural time ordinarily needed for detailing the masonry and for close supervision during construction.

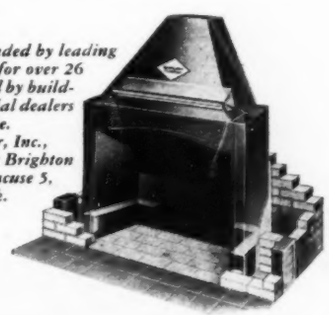
No limit to design. Since the Heatilator unit is practically hidden in the fireplace masonry, it allows complete freedom of architectural expression, both in style and decorative treatment. There is no restriction on mantel design or materials you may use.

Circulates heat. The Heatilator unit draws in air from floor level, heats it, and circulates it to warm every corner of the room. It provides quick comfort in cool weather, and is especially desirable in summer camps, cottages and basement recreation rooms.

Here's a typical Heatilator Fireplace that combines beauty of design and real fireplace utility.

Fireplace insurance. The Heatilator Fireplace unit protects you against all the inaccuracies that cause faulty fireplaces and client dissatisfaction. Specify the Heatilator unit, and you can be sure the fireplace will be built just as you plan it—smokeless and trouble-free.

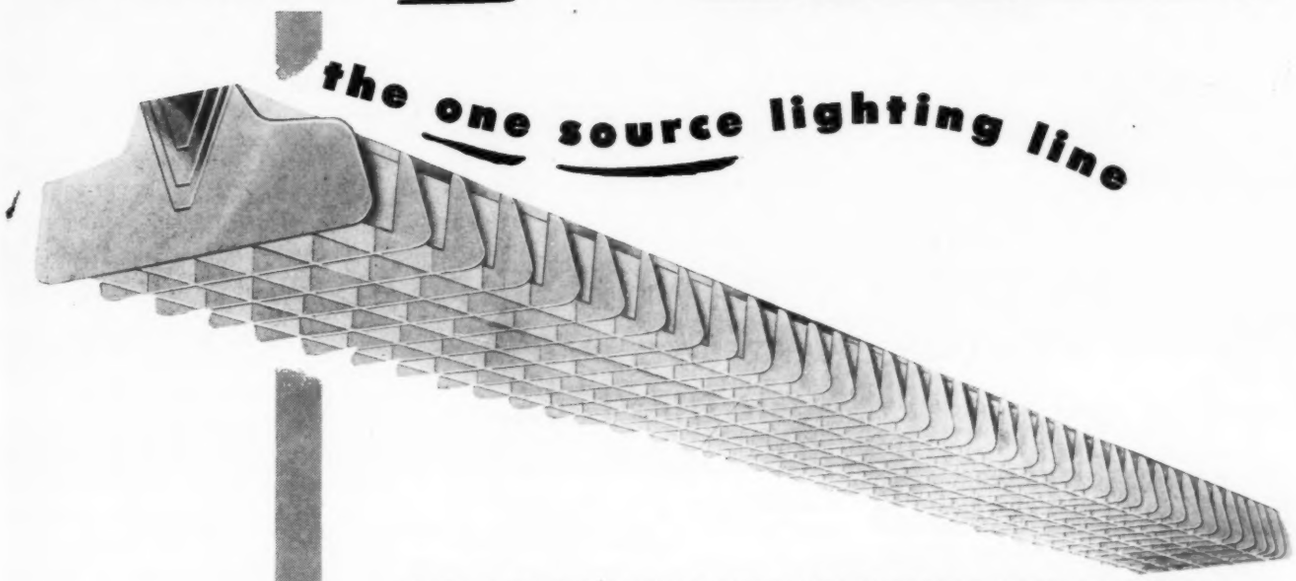
Recommended by leading architects for over 26 years. Sold by building material dealers everywhere. Heatilator, Inc., 6210 East Brighton Ave., Syracuse 5, New York.



HEATILATOR® FIREPLACE

What's all this TALK about KAYLINE?

the one source lighting line



FACTS ABOUT LIGHTING THAT WILL INTEREST MOST ARCHITECTS

Why do architects who specify KAYLINE lighting fixtures like to talk about *KAYLINE?*

The reason is very simple to understand. When you've discovered a restaurant "off the beaten path" that serves superb food—don't you like to take credit for your "find"? And if you discover a tailor who takes such pride in his work that your friends remark about your appearance—don't you like to brag a little about your "find"? And if you discover a farmer on a side road who gives you the finest grade of fruits and vegetables at a lower price, wouldn't you naturally be pleased at this "find"?

Architects, likewise, who have become acquainted with KAYLINE know that they have made a "find". True, KAYLINE is not the largest manufacturer of fixtures, but no one gives better service. KAYLINE does not make thousands of different types of fixtures, but the types it does make are outstanding for their purpose.

KAYLINE'S purpose is not to produce the most...or sell the most... but to create for those who appreciate quality...because there is no substitute for quality in lighting, as there is no substitute for a person's eyes.

KAYLINE is no newcomer to the field, but has a proud record, from the era of acetylene lighting down to the present day, for creating fine fixtures— fixtures that are carefully made, assembled and tested and easy to install— fixtures that are built to meet correct lighting standards, not price.

If you are as interested in lighting as we are, we invite you to make a real "find" by writing for the new KAYLINE Catalog.

even our catalog is different

● Kayline's 74 Page Catalog No. 53 not only shows the complete line of fluorescent, incandescent and slimline fixtures but gives information and charts on footcandles of light, light patterns, installation suggestions and other important data. Get a copy for yourself AND your specification writer. Send your request today.

THE KAYLINE COMPANY

2480 EAST 22nd STREET • CLEVELAND 3, OHIO

Established 1895

THE RECORD REPORTS

(*Continued from page 316*)

Museum, Eastern Parkway, Brooklyn, N. Y.

Oct. 19–21: 35th Annual Meeting, American Standards Association — Waldorf-Astoria Hotel, New York City.

Oct. 19–23: National Metals Exposition and Congress — Statler Hotel, Cleveland.

Oct. 19–23: Annual Convention, American Society of Civil Engineers — Hotel Statler, New York City.

Oct. 20–22: Annual Meeting, Construction Section, 41st National Safety Congress and Exposition — Hamilton Hotel, Chicago.

Oct. 21–23: Regional conference on Urban Design and Redevelopment, American Institute of Architects Middle Atlantic District — Hotel Statler, Washington, D. C.

Oct. 21–Jan. 3: Leger; more than 100 paintings. Prepared by the Art Institute of Chicago in collaboration with San Francisco Museum of Art and Museum of Modern Art — Museum of Modern Art, 11 W. 53rd St., New York City.

Oct. 23–24: Fourth National Noise Abatement Symposium — Chicago.

Oct. 25–27: Fall meeting, Prefabricated Homes Manufacturers Institute — Hotel Shamrock, Houston, Tex.

Oct. 26–29: Annual Convention, American Gas Association — Kiel Auditorium, St. Louis.

Oct. 29–30: Southwest Regional Meeting, American Concrete Institute — Rice Hotel, Houston, Tex.

Oct. 30–31: Meeting of Board of Directors, American Institute of Architects — Santa Fe, N. Mex.

Nov. 1–6: 47th Annual Meeting, American Society of Sanitary Engineering — Hotel Hollenden, Cleveland.

Nov. 2–6: Fall general meeting, American Institute of Electrical Engineers — Muelebach Hotel, Kansas City, Mo.

Nov. 4: A symposium on Good Design; Edgar Kaufmann, moderator — Museum of Modern Art, 11 W. 53rd St., New York City.

Nov. 4–6: 14th Annual Convention, Texas Society of Architects — Austin.

Nov. 4–6: 17th National Time and Motion Study and Management Clinic — Sheraton Hotel, Chicago.

Nov. 8–14: Annual convention, National Association of Real Estate Boards — Statler and Biltmore Hotels, Los Angeles.

Nov. 9–12: National Electrical Manufacturers Association — Haddon Hall Hotel, Atlantic City, N. J.

Nov. 9–12: Refrigeration and Air Conditioning Exposition, sponsored by Refrigeration Equipment Manufacturers Association — Public Auditorium, Cleveland.

Nov. 9–13: Annual Meeting, American Public Health Association — Hotel Statler, New York City.

Nov. 12: The Inter-Relation of Architecture and Engineering; second in a series of forums on "The Impact of Science and Materialism on the Arts Today" — Architectural League of New York, 115 E. 40th St., New York City.

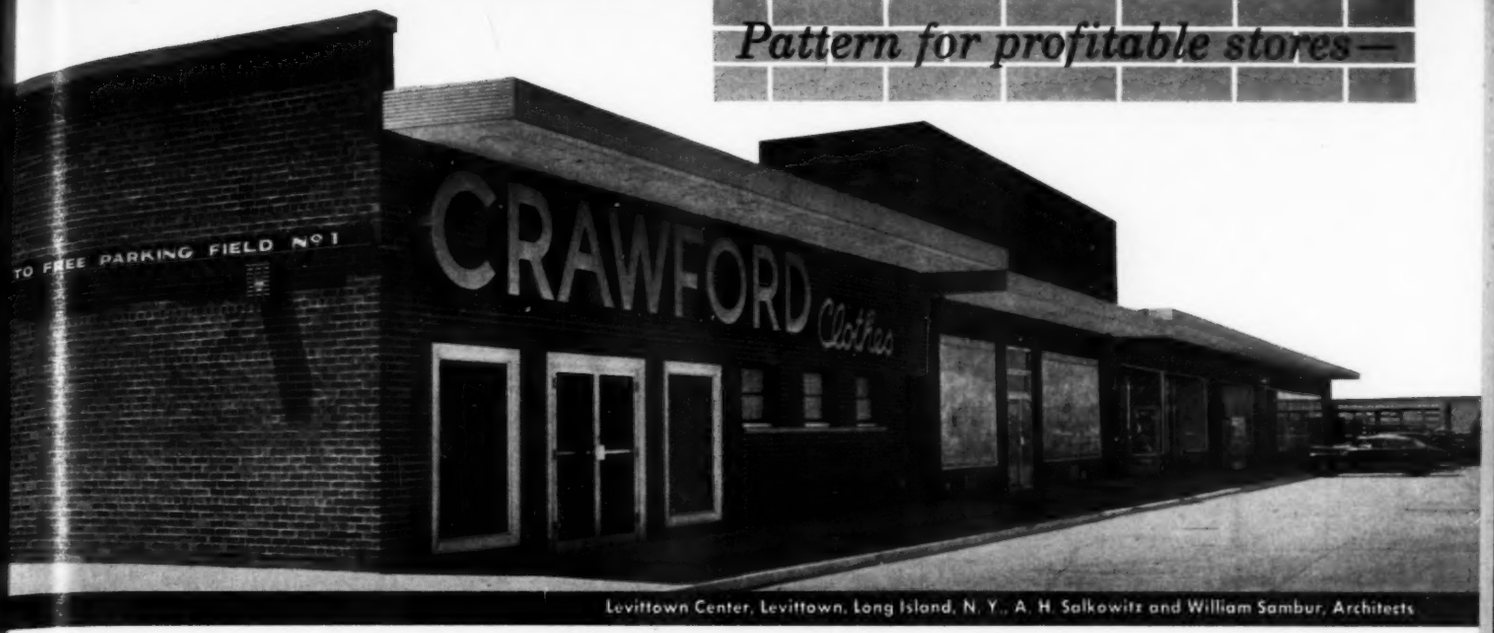
Nov. 12–13: Annual Meeting, National Building Material Distributors Association — La Salle Hotel, Chicago, Ill.

Nov. 12–13: Conference on porcelain enamel, jointly sponsored by the Building Research Advisory Board and Porcelain Enamel Institute — Washington.

Nov. 13–19: Annual Convention and

(*Continued on page 324*)

Pattern for profitable stores—



Levittown Center, Levittown, Long Island, N. Y., A. H. Salkowitz and William Sambur, Architects

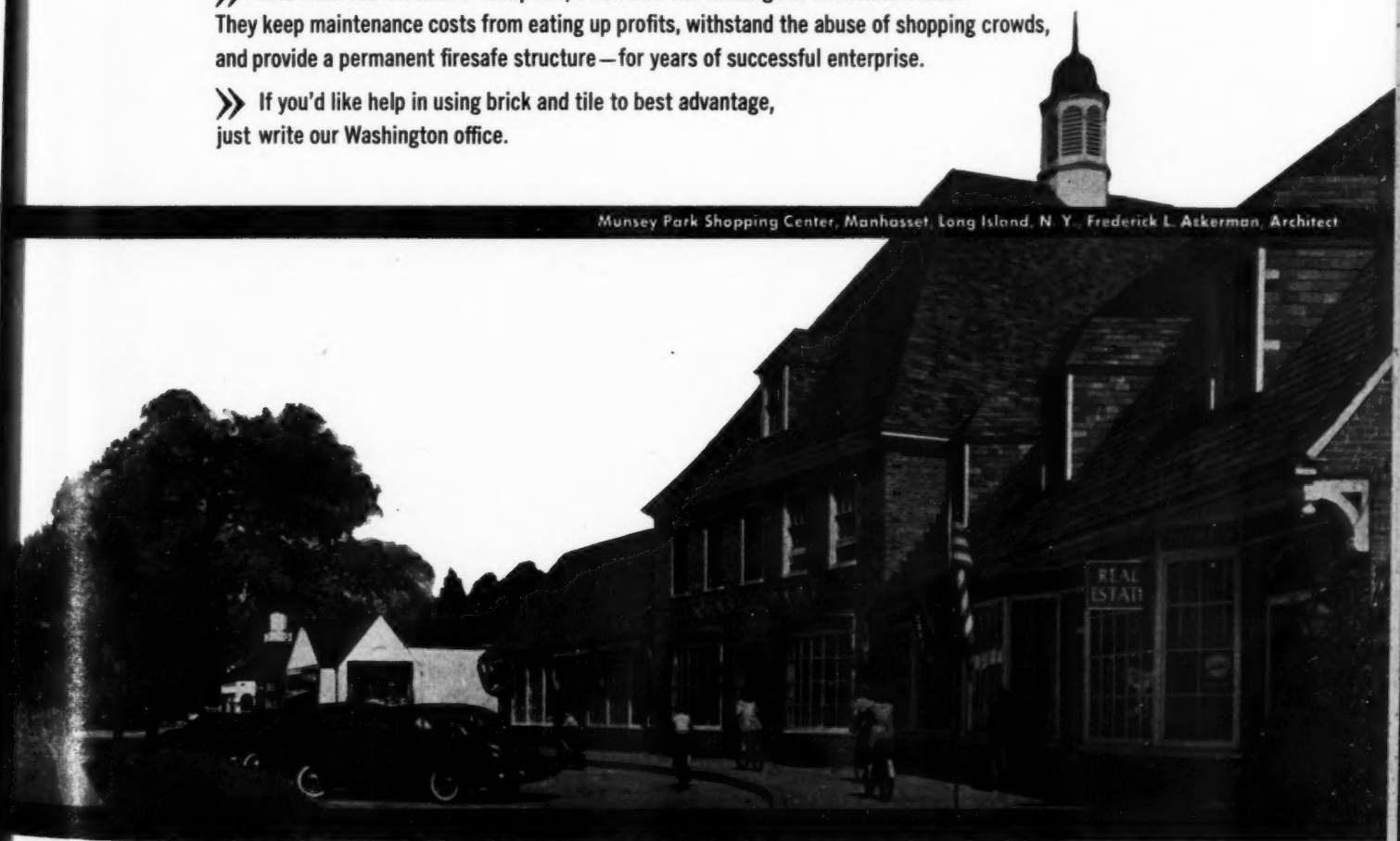
brick and tile help sales with good looks that last

Every experienced store architect knows how important appearance is in merchandising. That's one reason why so many specify brick and tile for shopping centers and other commercial structures.

» People everywhere like the colors and textures of clay products—they're so familiar, warm and friendly. They make a shopping center "belong" in any community.

» And from the investors' viewpoint, brick and tile make good economic sense. They keep maintenance costs from eating up profits, withstand the abuse of shopping crowds, and provide a permanent firesafe structure—for years of successful enterprise.

» If you'd like help in using brick and tile to best advantage, just write our Washington office.



Munsey Park Shopping Center, Manhasset, Long Island, N. Y., Frederick L. Ackerman, Architect

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THE RECORD REPORTS

(*Continued from page 320*)

home show, Mortgage Bankers Association of America — Miami, Fla.

Nov. 18–Dec. 2: 1953 Building Exhibition — Olympia, London.

Nov. 19–21: Annual convention, Florida Association of Architects; theme: Better Architecture through Public Relations — Huntington Hotel, St. Petersburg.

Nov. 24: Public Housing, a seminar — Architectural League of New York, 115 E. 40th St., New York City.

Nov. 29–Dec. 4: Annual meeting, the American Society of Mechanical Engineers — Statler Hotel, New York.

Nov. 30–Dec. 4: 31st annual convention, American Institute of Steel Construction — Boca Raton Hotel, Boca Raton, Fla.

Dec. 9 indefinitely: Exhibition, 19th Century American Rooms — Brooklyn Museum, Eastern Parkway, Brooklyn, N. Y.

Dec. 10: Commerce as a Patron of the Arts; third in a series of forums on "The Impact of Science and Materialism on the Arts Today" — Architectural League of New York, 115 E. 40th St., New York City.

OFFICE NOTES

Offices Opened

• Peter Collins has announced the opening of his office for the practice of architecture at Westview Lane, South Norwalk, Conn.

• Robert W. Gibeling announces the opening of an office for the practice of architecture at 157 Peachtree St., N.E., Rm. 215, Atlanta, Ga.

New Firms, Firm Changes

• Jack B. Beardwood, formerly Assistant to the Secretary of Health, Education and Welfare, will join the architectural firm of Welton Becket, F.A.I.A., and Associates, 5657 Wilshire Blvd., Los Angeles.

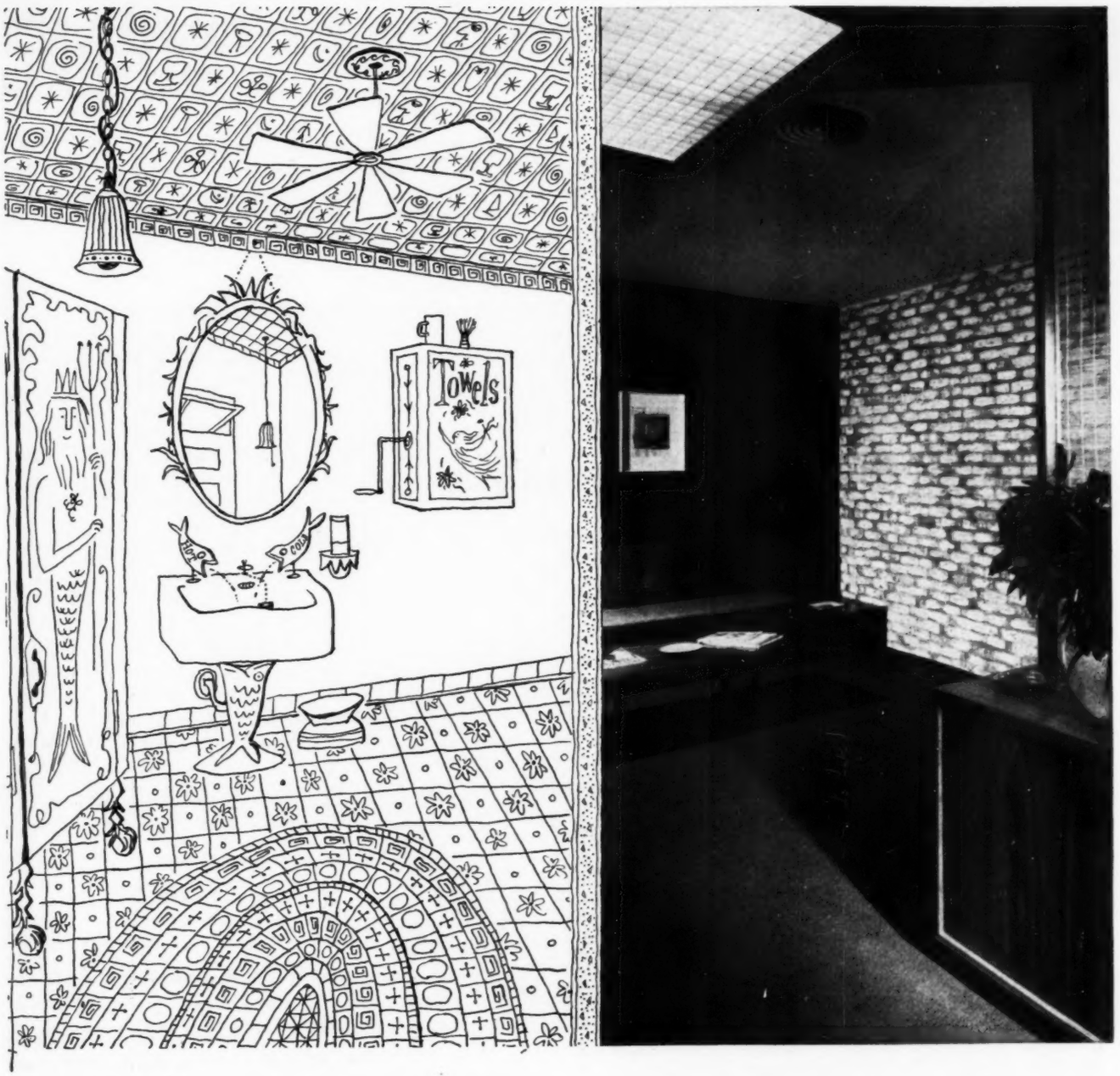
• E. A. Charlton has joined the H. K. Ferguson Company, engineers and builders at 11th and Walnut Ave., Cleveland. Mr. Charlton previously practiced as a pulp and paper consultant.

• William Henley Deitrick and John C. Knight have announced the formation of a partnership for the practice of architecture. The firm will be known as Wm. Henley Deitrick–John C. Knight and is located at 115 West Morgan St., Raleigh, N. C.

• Harold S. Ellington has joined the firm of Harley, Ellington and Day, architects and engineers, as Chief Electrical Engineer. Offices are in the Fine Arts Building, 58 West Adams, Detroit 26, Mich.

• John J. Manning, Vice Admiral USN (Retired), has joined the firm of Kelly & Gruzen, architects and engineers,

(*Continued on page 324*)



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Scott No. 943 Recessed Towel Cabinet

Scott No. 945 Recessed Towel Cabinet and Waste Receptacle

SCOTTISSUE TOWELS SYMBOL OF THE RIGHT KIND OF WASHROOM

THE RECORD REPORTS

(*Continued from page 322*)

as Technical Director of the firm's engineering department. Mr. Manning was formerly Chief of the Bureau of Yards and Docks.

• Reisner & Urbahn, Architects, have announced that the firm name has been changed to Reisner Urbahn Brayton & Burrows. The firm's address is 654 Madison Ave., New York 21, N. Y.

• Bernard J. Sabaroff and Harold C. Dow, Architects, have announced the combining of their offices at 1179 Market St., San Francisco 3, Cal.

• Phil Lloyd Shoop, A.I.A., and Reginald Roberts, A.I.A., have dissolved their partnership in the firm known as Shoop & Roberts. Mr. Shoop will continue to practice at 122 West Olmos Dr., San Antonio, Tex. Mr. Roberts will also continue at the same address until the completion of his offices at 2600 McCullough Ave., San Antonio.

• F. L. Whitney, formerly chief engineer with H. K. Ferguson Company, has joined Walter Kidde Constructors, Inc., 140 Cedar St., New York 6, N. Y., as chief engineer.

New Addresses

Celli-Flynn, Architects and Engineers, 335 Shaw Avenue, McKeesport, Pa.

Henry V. Chescoe, A.I.A., 121 Beale Street, San Francisco 5, Cal.

C. M. Deasy, A.I.A., 8810 Melrose Ave., Los Angeles 46, Cal.

Everett Golden, Architect, 1510 Rosemont Ave., Chicago 26, Ill.

Burket E. Graf, Architect, 2007 Pepper Ave., Lincoln, Neb.

Laurence P. Johnston, A.I.A., 4641 Montgomery Ave., Bethesda 14, Md.

R. Webster Ross, A.I.A., 3024 Atlantic Blvd., Pompano Beach, Fla.

Ray Stuermer, Architect, 9355 Lincolnwood Dr., Evanston, Ill.

F. O. Wolfenbarger & Associates, Architects, 501 Houston St., Manhattan, Kans.

COMPETITIONS

Rome Prize Fellowships

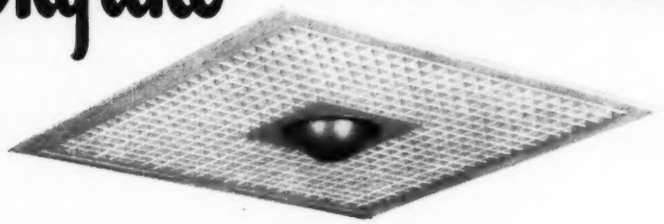
The American Academy in Rome has announced that it will again award a limited number of fellowships in the fields of architecture, landscape architecture, musical composition, painting, sculpture, history of art and classical studies. The fellowships will be awarded "on evidence of ability and achievement."

Architecture and landscape architecture fellowships will furnish a stipend of $1250 a year, round-trip transportation between New York and Rome, free residence at the Academy and an additional allowance for European travel. The 1954 fellowships will be effective October 1, 1954, and all fellowships have renewal possibilities.

Applications and submissions are due before January 1, 1954, and should be sent to the Academy's New York address. Information is obtainable from

(*Continued on page 326*)

Skylike ---------THE INCANDESCENT LIGHTING SYSTEM



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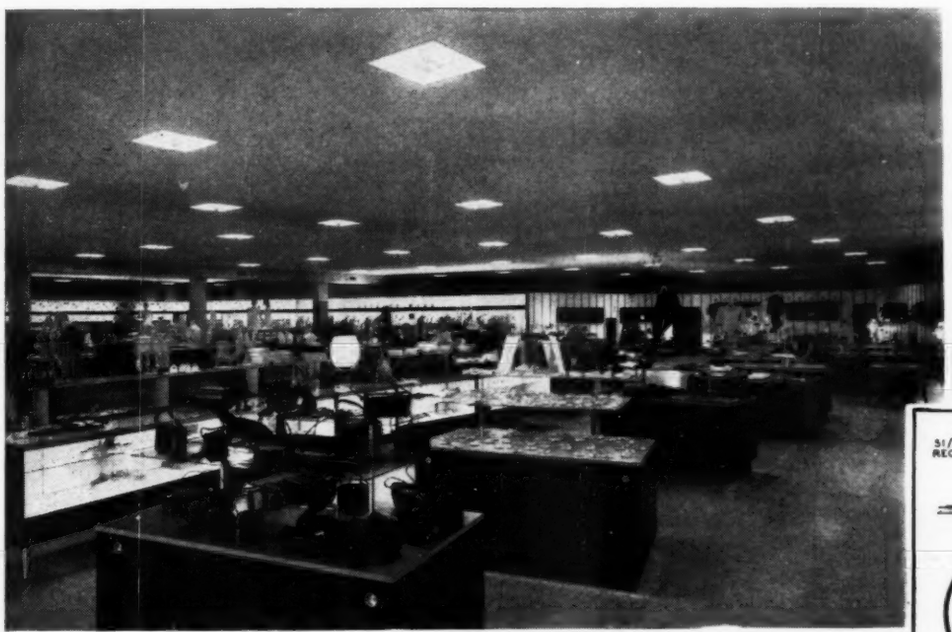
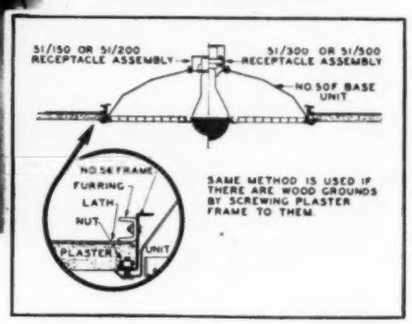


Upper level of the new Carson Pirie Scott & Co. store at Evergreen Park, Illinois. Lighting fixtures are SKYLIKE using 500W silvered-bowl lamps

Cross section showing the simple installation method used for the SKYLIKE units



THE PROBLEM . . .

To provide a general lighting system, dignified in appearance, yet in perfect harmony with both the architectural and decorative scheme of the store. The system had to provide the color quality of filament lamps so important to general merchandising. Ceiling construction was hung wire lath, sprayed with U. S. Gypsum Sabinite. Lighting intensity required was 18 foot candles throughout the store.

THE SOLUTION . . .

Recessed SKYLIKE units using 500W. Silvered-Bowl Lamps were selected. They were centered in 10′ x 18′ areas and planned for in construction of the ceiling framing. Standard No. 56 plaster frames were installed when ceiling framing was built. Reflectors and louvers were installed after plastering was finished. The completed installation fulfilled all the basic requirements as to cost, quality and quantity of illumination.

Skylike . . .

The modern, versatile unit that can solve your lighting problems just as successfully as it has in countless installations in . . .

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Gentlemen:

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NAME_____

FIRM_____ TITLE_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

(*Continued from page 324*)

the Executive Secretary, American Academy in Rome, 101 Park Ave., New York 17, N. Y.

Fulbright Awards Announced

The 1954–55 Fulbright grants program has been announced by the Conference Board of Associated Research Councils, Committee on International Exchange of Persons. Lecture and/or advanced research posts in the field of architecture will be available in Austria, Denmark, Germany and Italy.

The deadline for applications is October 15, 1953. Applications can be obtained from the Conference Board of Associated Research Councils, Committee on International Exchange of Persons, 2101 Constitution Avenue, Washington, 25, D. C.

Queens Building Awards

The Chamber of Commerce of Queens, N. Y., has announced plans for its 1953 Annual Building Awards competition, for "outstanding structural achievements" in Queens between November 1, 1952, and October 24, 1953. Entries must be submitted not later than October 27 and should be addressed to Building Awards Committee, Chamber of Commerce of the Borough of Queens, 24–16 Bridge Plaza South, Long Island City, N. Y.

Yale Student Wins Fellowship

Duncan Wray Buell has been awarded the Alice Kimball English Traveling Fellowship in Architecture, to be used for travel and study abroad. Mr. Buell was graduated in 1953 from the Department of Architecture of Yale University.

AT THE COLLEGES

New Department Head at I.I.T.

Illinois Institute of Technology has announced the appointment of Elmer I. Fiesenheiser as director of the civil engineering department. Mr. Fiesenheiser has been a professor at the Institute since 1951.

Utah Student Receives Grant

The American Institute of Architects' Langley Grant has been awarded to Robert Alan Fowler, 1953 graduate of the Department of Architecture at the University of Utah. Mr. Fowler plans to use the $2300 grant for further study at Massachusetts Institute of Technology.

V.P.I. Honors Dean Norris

The research professorship of the Wood Construction Department in Virginia Polytechnic Institute's School of Engineering has been named the "Earle B. Norris Research Professorship" in recognition of the services to V.P.I. of Dean Emeritus Norris, who was for 24 years dean of the Institute's School of Engineering.

(*More news on page 328*)

When your prospects want a room like THIS →

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Universal·Rundle

Truly outstanding bathrooms like this one demand truly *fine* bathroom fixtures. That's why, when your prospects want a top quality bathroom, it's time to specify U/R fixtures. For they are the world's finest bathroom fixtures—the *only* fixtures with these features:

★ **Whitest white**—*by actual scientific test!*

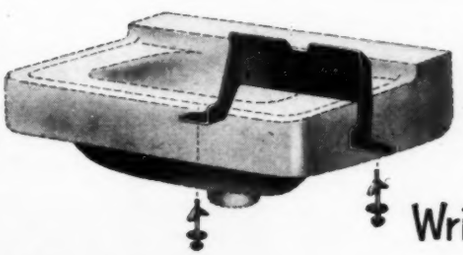
★ **Matched colors**—*to assure harmonious color styling.*

★ **Surfaces harder than steel** *for lasting beauty—a result of U/R's exclusive "Hi-fire" process!*

★ **Lifetime Bond** *between surface glaze and fixture body!*

Nationally Advertised! *Your* prospects are seeing big, colorful Universal-Rundle advertisements in the Saturday Evening Post, Better Homes & Gardens, House Beautiful, Sunset, House & Garden, Living for Young Homemakers, Small Homes Guide and other leading publications. You can be sure of customer acceptance when you specify U/R fixtures!

UNI-LOX HANGER!
This patented, exclusive U/R hanger is the fast, easy way to hang china lavatories — permanently. Easy to fasten to wall . . . easy to align . . . firm grip . . . positive pull-down . . . easy to level!



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Plants in Camden, New Jersey; Milwaukee, Wisconsin; New Castle, Pa.; Redlands, Calif.; San Antonio and Hondo, Texas

(*Continued from page 326*)

ARCHITECTS OF MICHIGAN IN ANNUAL MACKINAC DO

Talmadge Hughes, F.A.I.A., faithful scribe of Michigan architects' affairs and editor of Michigan's *A.I.A. Bulletin*, sends this report on the Michiganders' annual trek to Mackinac Island:

More than 200 people were at the Grand Hotel on Mackinac Island for the Michigan Society of Architects Tenth Annual Midsummer Conference August 6–8; and most of them seemed to be at the opening event — the social hour and reception in the presidential suite of Mr. and Mrs. Linn Smith.

Raymond S. Kastendieck, the new Great Lakes A.I.A. regional director, brought greetings from the Institute, congratulated Michigan on its architectural organizations and announced the Great Lakes regional seminars at Detroit September 18–19. He also remarked that the Kastendiecks and the Bachmans have been going to the

(*Continued on page 330*)

Speakers' table was so crowded with notables it was photographed in two sections. Above: Clair W. Ditchy, national A.I.A. president; Mackinac Island Commissioner Wilfred Doyle; Adrian Langius, a past president of the Michigan Society and newly-elected A.I.A. Fellow; and the Society's president, Linn Smith; treasurer, Elmer J. Manson; first vice president, Charles B. McGrew; and secretary, James B. Morrison. Below: Conference Chairman Clarence H. Rosa; the Society's third vice president, Paul A. Brysselbout, also Saginaw Valley A.I.A. president; Phillip C. Haughey, Society director; Peter Vander Laan, Western Michigan Chapter president; Raymond S. Kastendieck, Great Lakes A.I.A. regional director; C. William Palmer, past president of the Society and the Detroit Chapter and newly-elected Fellow; Toastmaster John Richards, former regional director

PRODUCT NEWS from AMERICAN-Standard

A review of products in the news and important features worth remembering

AMERICAN-STANDARD DISPOSER. A work-saving partner for famous American-Standard sinks, this quiet-operating disposer is also ideal for modernization as it can be easily fitted in any sink with standard drain opening. Has reversible, double-edged shredders of rustproof chrome steel, and unique safety top control.

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 (*Continued from page 328*)

Mackinac conferences for years and for them Mackinac was like home.

The meeting commended the medical profession for the restoration of the Island house of Doctor Beaumont, on which Prof. Emil Lorch was consultant and Warren Ringe architectural superintendent. The house was open for inspection during the conference. Steps were also taken to raise funds to restore the old Biddle house there.

A comprehensive talk on his research at Cranbrook was given by W. Kent Cooper, winner of the C. Allen Harlan $5000 award sponsored by the Society. Mr. Cooper has taken as his project at Cranbrook "A Comprehensive Study of Industrial Architecture." He has also won the Paris prize of the Beaux Arts Institute of Design and was to leave this fall for a year of study in Europe.

A highlight of the meeting was the program presented by J. Robert F. Swanson on the subject of interior design. Mr. and Mrs. Swanson, who was Pipsan Saarinen, have supplemented their architecture with design in wood, metal, fabrics, glass and many other materials. Mr. Swanson, who credited Mrs. Swanson with an important part in their practice, showed slides of much of their work and followed this with a pictorial record of the Seattle convention and the trip to Alaska that followed.

J. Gardner Martin did the honors at the Portland Cement Company's cocktail party and the President's Reception; and he added another trophy to the Kawneer trophy case. This time the "Man of the Year" was President Linn Smith; the "trophy," a Chic Sale "facility" for one of Mr. Smith's functional schools.

Lawrence J. Plym, president of the Kawneer Company, donor of the trophy case, was again on hand to take guests on his yacht.

The banquet was the crowning event, but it had to be cut short for the Terrace Room's floor show. President Linn Smith said this prevented his giving the 45-minute talk he had intended, so he greeted the guests and introduced Toastmaster John Richards.

The Besser Male Chorus entertained, under the direction of Ralph Michaud. Among the soloists were Advertising Manager Robert Hastie, bricklayer Martin Rousseau and chemist Art Miller. Mrs. Lillian Roberts was the accompanist.

Mr. Ditchy, making the main speech of the evening, pledged his best efforts to justify the confidence expressed in his election in June to the A.I.A.'s highest office.

Snapped on "the world's largest porch" at the Grand Hotel: Mrs. Linn Smith, wife of the Michigan Society president; Mrs. Jay Simpson, Mr. Simpson, Armstrong Cork Company; Mrs. Robert Franden and Mr. Franden, ARCHITECTURAL RECORD; Alfred Moor of the Kimble Glass Company

(*More news on page 332*)

ANOTHER

Low-cost

WAREHOUSE USING MONOCORD TRUSSES

Going up for Cook and Kier Lumber Company of Lockland, Ohio, are nine 92'-6" Monocord Timber Trusses fabricated by Weyerhaeuser, for a lumber shed, 128' long.

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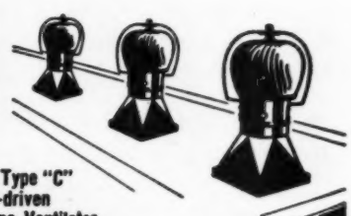

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THE RECORD REPORTS

(*Continued from page 330*)

GREAT DEBATE REENTERED IN DALLAS CHAPTER FRAY

The battle for modern architecture is won, they say; but you can still get up a good program by finding some "traditionalists" to pit against some "modernists" in a good old-fashioned debate. The Dallas Chapter of the American Institute of Architects did just that at a recent meeting, and, under the chairmanship of Harley Tracy, Debaters Robert Goodwin, Harold Prinz, Ardery DeFonds, and William Hidell made it a lively occasion. As reported in the chapter *Bulletin*, the argument went something like this:

Mr. Goodwin: I am not arguing for Greek pediments on warehouses, but I rebel at the modernists who can see no good at all in traditional work. With all this fuss about overhang and sun protection, you'd think the New Orleans designers never thought up the sunshade and shutter long ago. Young modernists violate their own principle with their over-emphasis on functionalism, and outrage more basic tenets of architecture than the traditionalists ever did. Industrial architecture, in its nakedness, does express a certain function and is modern; but I quarrell with the residential designers who, in striving after an effect, lose a principle.

Mr. Prinz: I don't want to talk about details but about basics. The great tradition in architecture has always been creative design and when you copy a building you don't create one. The function of what you are copying is gone. New Orleans sunshades, so beautiful and useful, have become narrow shutters nailed to a wall. Every great period of architecture was great only because it was creative. Lots of people try to make buildings look "contemporary," and these are as bad as you say; but if the approach is right we have good contemporary architecture.

Mr. DeFonds: I guess I'm a traditionalist. I've always been associated with offices on whose plans you could immediately locate the front entrance of a building. I wish the two schools of thought might understand each other better. We attach too much importance to labels. I am doing a plan right now in the contemporary manner at the insistence of the client. It has all the contemporary clichés, but my heart isn't in it. We architects have abdicated our place to the structural engineer. We've made a fetish of technical virtuosity and economic necessity. We won't tolerate beauty for its own sake. I'm for any change in plan that will promote economy, safety and comfort; but I think there is a frame of mind that gives things warm human qualities beyond the demands of economic expediency. I think this is more important than the scientific approach. Let's get back to architecture and leave science to someone else. Technical novelty isn't necessarily progress. Let's forget the labels and put some joy and beauty into the things we are doing.

Mr. Hidell: This is one of the first times we have heard architecture discussed at these meetings, and you can tell it by looking around our city. I think Mr. DeFonds' story of the house he is designing is an example of what I want to talk about. If a man is designing a house of clichés, he is using the traditional approach, no matter what he calls the style. The great buildings of history are

(*Continued on page 334*)

(*Continued from page 332*)

great because they were creative works of their time. Beauty and truth are closely parallel — what can be beautiful that is not truthful? A church with a gargoyle, because in olden times that was traditional to scare away the evil spirits? "If it ain't Gothic, it ain't godly?" It is one job to do creative architecture, and that is not rearranging classical details. I think a man with the money is entitled to do what he wants; but I think the architect must refuse to be nothing more than a drafting contractor in such a case.

Then came the "rebuttals":

Mr. Goodwin: By what logic does everything have to be called modern? Everything we do is modern, whether we like it or not. We used to draw at the Beaux Arts ateliers. You have to copy before you can create and some of our young architects haven't even learned to copy. The fundamental of architecture is in plan, economy and expression of grace and beauty. Take the school slides of our recent symposium. Why were they all so dissimilar? It seems as if all the architects were searching only for something different. If they had the answer, why didn't they stick with it? Any time an architect has to justify what he does by logic, it isn't any good and it doesn't make any sense.

Mr. Prinz: Everyone would like to see goodlooking architecture. What that is we may not be able to define; but we agree that the beauty is essential. I agree about the matter of justifying; and I don't think we have the answer; but if we'd spend a little more time hunting for them, we'd be better off.

Mr. DeFonds: This is getting to be a love feast. I wish we had a more orderly approach to architecture. The death of Goodhue and Cret was a great blow to American architecture, for the sort of work they were doing was an answer to much of the restlessness of the contemporary style.

Mr. Goodwin: I cannot agree with Mr. Hidell about truth being necessarily beautiful. The bray of a jackass is true, but it certainly isn't as beautiful as the mockingbird's song.

Mr. Hidell: I'd still rather be a jackass that tried, than the mockingbird that copied.

From the floor:

George Edwards suggested that the need is to hit the middle of the road — "We need for our day what Williamsburg was for its day — more finish, more detail, less rush. Great architecture starts with feeling."

A guest asked for a definition of contemporary architecture. Thomas Broad thought each one had his own. Mr. Goodwin thought it could be the work of those who realize the gift of genius is rare and who use and adapt the work of genius rather than doing mediocre original work. George McGill suggested the era of modern architecture should cover 500 years, for new and original work, the use of ornament and color, etc., appears all the time. Mr. Broad remarked that every great architect was modern at the time of his work.

Arch Swank was moved to propose that the next program be devoted to a discussion of "Is the Automobile Here to Stay, and Should We Provide Shelter for This New Gadget?"

And so the meeting adjourned.

(*More news on page 336*)

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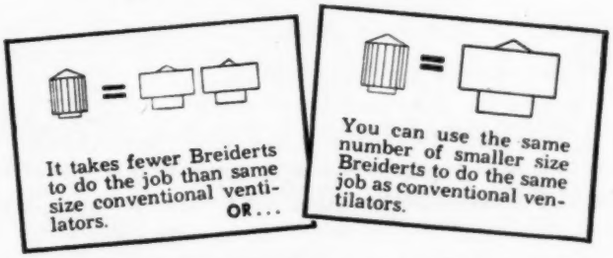

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THE RECORD REPORTS

(*Continued from page 334*)

26 STORIES ENCLOSED IN 6½ WORKING DAYS

New York's first all-aluminum-faced building claimed a construction speed record when all 98,363 sq ft of its façade had been covered with 258,847 lb of 1/10-in.-thick panels six and a half working days from start of enclosure.

Three especially-trained construction crews installed the 1800 panels from within the 26-story building by bolting them to steel brackets previously welded to the framework. No exterior scaffolding was used.

The panels, designed and fabricated for Tishman & Realty and Construction Company's $14 million 99 Park Avenue

(*Continued on page 338*)

Top: workmen get signal to start bolting first of 1800 prefabricated aluminum panels; next: the way the structure looked after the first few panels had been installed; bottom: late on the third day of installation, 10 stories had been enclosed and work was well advanced on two more. Rate of installation turned out to be almost double the original estimate of the builders

 (*Continued from page 336*)

office building by General Bronze Corporation of Garden City, N. Y., are two stories (21 ft 3 in.) high and 4 ft 8 in. wide — compared with one-story (12 ft) high ⅛-in.-thick panels 6 ft wide used in the Alcoa Building in Pittsburgh (ARCHITECTURAL RECORD, Aug. 1952, pp. 120–127). A specially-designed flange which is part of each unit interlocks with adjoining panel flanges, completely eliminating caulking. Each panel contains two reversible, vertically-pivoted, 6-ft-high windows, designed to rotate for safe interior cleaning, with a four-faceted geometrical design die-pressed on the spandrel below each window.

To meet code requirements for fire resistance, the wall has a 4-in. brick back-up, set 1½ in. from the aluminum panels to leave an insulating air space and covered on the inside with rigid insulation 2 in. thick. Further protection against heat gain will be provided by giving the windows heat-absorbing glass and stainless steel weatherstripping; windows will be opened only for cleaning. The building will be completely air conditioned.

Above: this is how the panels looked from the inside, before the brick backup was in place. Below: corner column cover being jockeyed into place at 13th and 14th floors, late on third day. Bottom: six and a half working days from the start —enclosure was complete

(*More news on page 340*)

Modern "Open Planning" — with a provision that lets you "leave the dishes in the sink" is a practical reality with "Modernfold" doors. These handsome "movable walls" do away with the need for permanent partitions between living and service areas — throw the whole house "open for living."

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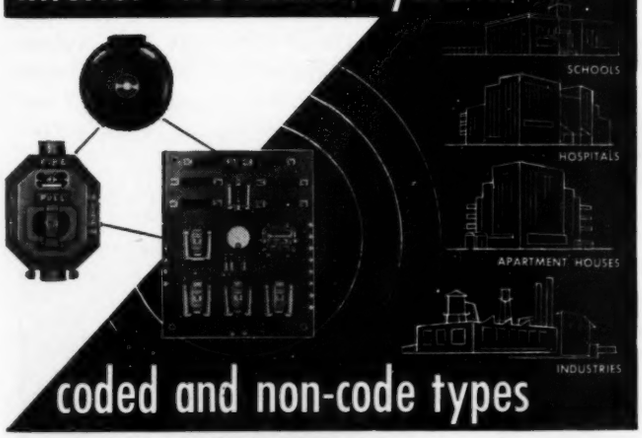

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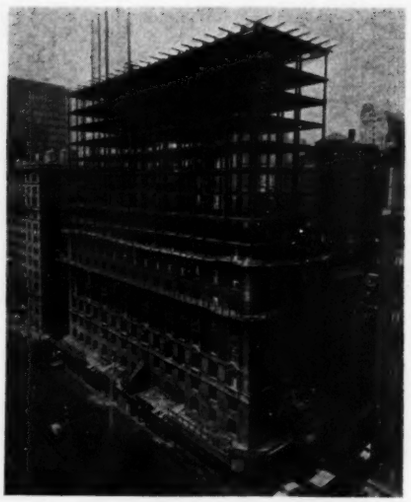
(*Continued from page 338*)

STEEL FRAME IS RE-USED IN NEW OFFICE BUILDING

Foundations were in and steel topped out before they started construction on the new office building for 430 Park Avenue — an unlikely chronology even in New York and possible only because the existing steel framework of the apartment house demolished to make way for the new structure could be re-used in its entirety. The steel was in prime condition and heavier than required by today's building code — but the unusual thing was the adaptability of the design of the new building, its size and shape, to the old framework. Resulting economy in construction time is expected to permit occupancy of the new building just one year after beginning of demolition on the old.



430 Park Avenue: old building, with demolition about half completed. Existing steel frame of apartment building is being reused in new office structure designed by Emory Roth & Sons

The 18-story glass and steel tower, a block from Lever House, will offer 433 lineal ft of daylighting for the 11,500 sq ft of rentable area on each floor. The courts of the old building have been eliminated to provide space for construction of an entirely new building core to house the new stairs and elevators, air conditioning shafts and other equipment. The building will be air conditioned throughout, with individual controls for perimeter offices.

Emory Roth & Sons are the architects. Owner is the 430 Park Avenue Corporation, with Joseph Gerla, Charles S. Freeman, Oestreicher Realty Company and Francis Kleban as the "parties at interest."

430 Park Avenue: architect's rendering of new office building now under construction

(*More news on page 342*)

THE RECORD REPORTS

(*Continued from page 340*)

PENNSYLVANIA BUILDING PSYCHIATRIC INSTITUTE

The State of Pennsylvania is expanding its facilities for the care of the mentally ill.

Construction is well under way on the new Eastern Pennsylvania Psychiatric Institute located at Henry Avenue and Abbotsford Road in Philadelphia. Award of a $7,095,000 construction contract to the Turner Construction Company was announced in June by the Pennsylvania State General Authority, and groundbreaking followed immediately.

12-story building is main ward and laboratory; also included are children's unit, administration building, doctors' and nurses' quarters

The main hospital group consists of a 12-story and basement main ward and laboratory building, a four-story children's unit building, a three-story main administration building, a seven-story doctors' quarters building and a five-story nurses' quarters building.

There will also be a two-story garage and laundry building. A utility tunnel and corridor connects the hospital to the doctors' and nurses' quarters and to the one-story boiler plant.

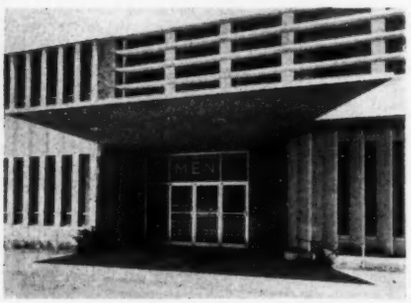
The buildings will have a structural steel frame and will be of concrete fireproof construction. Exterior walls will be face brick with limestone trim and steel sash.

Harbeson, Hough, Livingston & Larson are the architects; Henry Sternfeld is associate architect.

Construction will be steel and concrete, exteriors of brick with limestone trim and steel sash

(*More news on page 344*)

 (*Continued from page 342*)

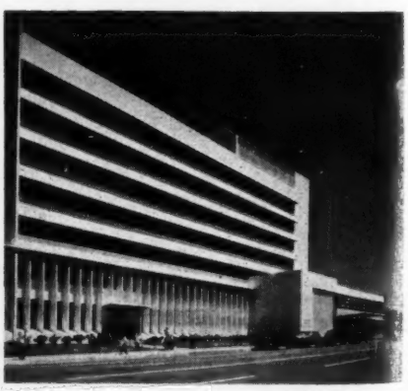


Main entrance of Oklahoma City's new Y.M.C.A. has concrete canopy cantilevered from the building. Precast vertical louvers were keyed and dowelled to the walls. Bottom of page: boys' entrance also has a cantilevered concrete canopy

CANOPIES AND LOUVERS: FORM FOLLOWS FUNCTION

The new central building for the Young Men's Christian Association in Oklahoma City had to provide comfort without mechanical air conditioning in an area where summer temperatures get as high as 105 deg F. Architects Sorey, Hill & Sorey used canopies and louvers to obtain maximum shade from the sun and maximum cooling from the prevailing winds. Louvers on the western elevation are not, as in most structures, directed from southeast to northwest, but are shifted 90 deg for the double benefit of shading from the sun and directing the prevailing south winds into the west rooms. Horizontal louvers and canopies were cast in place, but the larger vertical louvers were precast in a casting yard and erected later with adjoining concrete placed against them. Structural floor design was conventional reinforced concrete with pan-joist floors.

The building, eight floors and basement, provides transient and resident housing in addition to offices, gymnasium, swimming pool, lounges and public rooms. The architects report the cost of $1,311,341, or 82 cents per cu ft, is well below average unit cost of comparable structures in the vicinity.

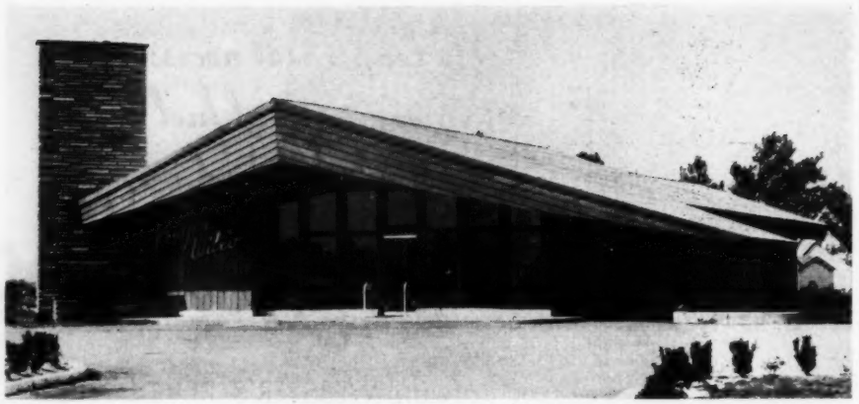


(*More news on page 346*)

THE RECORD REPORTS

(*Continued from page 344*)

"MODERN ARCHITECTURE": SUCCESS ON THE HIGHWAY



The Roger Wilco Liquor Store on Highway S-41 in Palmyra, N. J., was designed by Architects Armand Carroll and William J. Stephenson of Philadelphia to catch the eyes of passing motorists by providing a sharp contrast to the gas stations and small dwellings along the highway.

How well it has succeeded may be judged by the opening paragraphs of a recent news release from the publicity department of Gray & Rogers, Philadelphia advertising agency; the release was written on behalf of the Insular Lumber Company, but it was an architect's public relations dream. To wit:

"In the summer of 1951, a Palmyra, N. J., liquor retailer moved his store a few blocks and staked his business future on the eye appeal of modern architecture and dramatic building materials. As a result, he now has:

Three times his 1951 sales volume

A store that is a local landmark with a national reputation

A new transient trade, double the size of local business

Repeat customers from all 48 states

A dependable flow of one-purchase customers, usually an uncertain factor to small-town liquor retailers

A greatly developed local trade

The respect and cooperation of his community

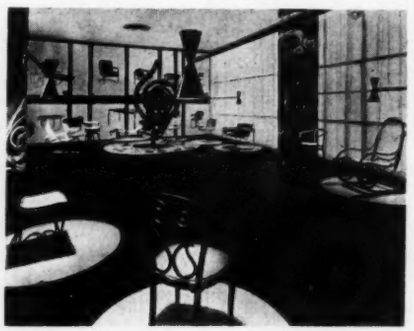
"To make this phenomenal record, the liquor retailer made his store serve as its own advertisement by erecting a building of striking appearance on a well-traveled highway; chose a catchy name that would be easy to remember and spread by word of mouth; built up a large and varied stock of unusual items in addition to his complete line of liquors; and developed a strong program of community relations." The name, by the way, is a relic of Owner Leo Meisler's Air Force service.

On a large lot about 50 ft off the highway, the store is built of glass, stone and Philippine mahogany. A giant sandstone chimney extends to a fireplace inside; mahogany is used for all interior walls and woodwork.

(*More news on page 348*)

THE RECORD REPORTS

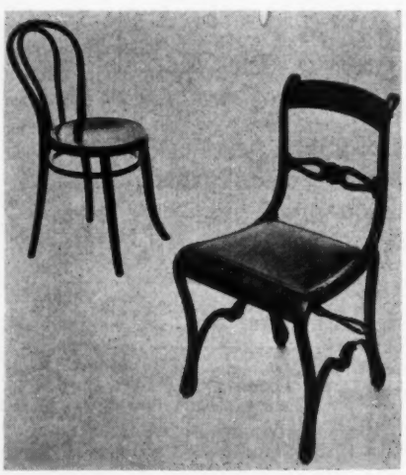
(*Continued from page 346*)



CHAIRS BY THONET IN ANNIVERSARY EXHIBIT

Thonet Brothers Inc., 19th century pioneers in mass-produced bentwood furniture, and leaders in the development of tubular steel furniture, is this year celebrating its 100th anniversary in the United States and New York's Museum of Modern Art has observed the occasion with an exhibit (closing October 4) of some of Thonet's more famous chairs. The exhibit, which had a lively and imaginative installation by Italian Architect Enrico Peresutti, was assembled under the direction of Greta Daniel, assistant curator of the Museum's Department of Architecture and Design. Chairs displayed ranged from a model made in 1836 by the company's founder, Michael Thonet, in his cabinetmaker's shop in Germany, to a 1952 design for the company by Joe Adkinson — with some of the well-remembered landmarks in between.

(*Continued on page 350*)



Left: "Vienna" bentwood side chair, 1876; right: first bent veneer chair, 1836/1840. Top of page: Peresutti put chairs on low, round platforms covered with felt in brilliant colors

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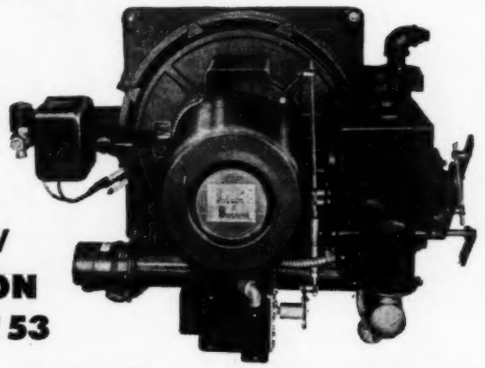

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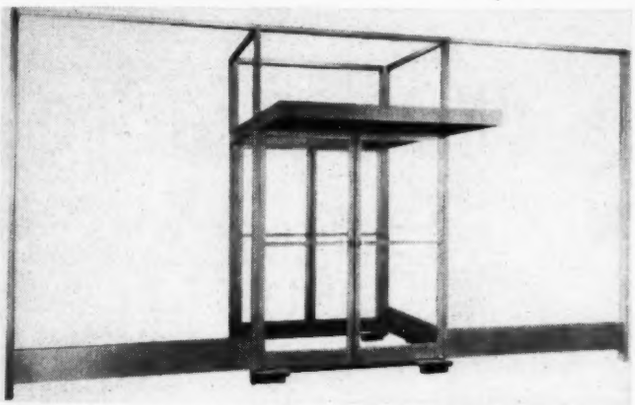

Entrance to General Motors Proving Grounds Building, Detroit, Michigan. Furnished and installed by Fire Doors, Inc., Detroit. Photo shows complete entrance, vestibule doors, sidelights, transoms, canopy and return panels assembled at the factory for final inspection before being disassembled and packed for shipment in six sections.

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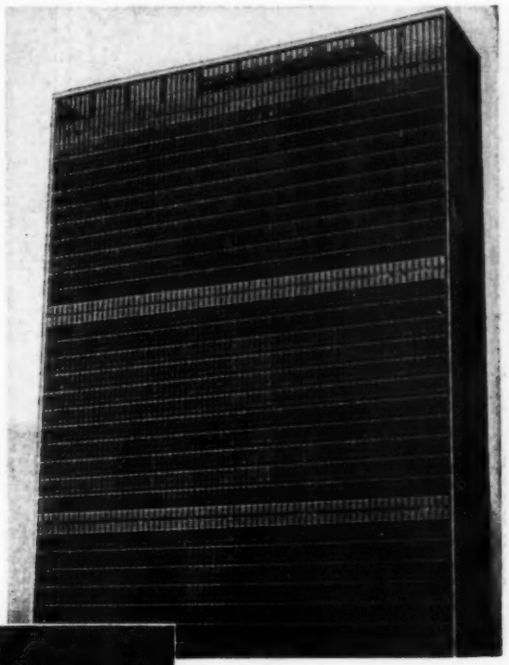

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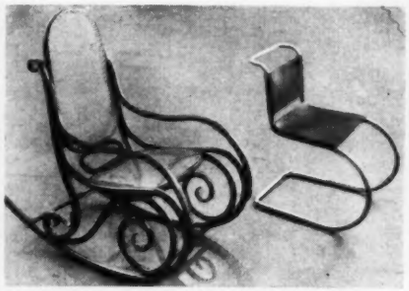
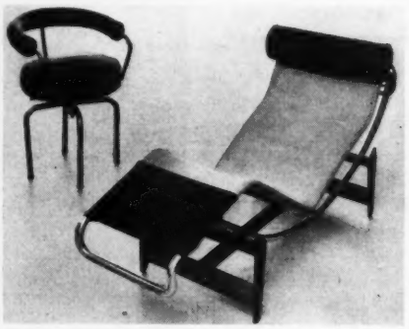
THE RECORD REPORTS

(*Continued from page 348*)





Top: (left) bentwood rocking chair, 1860; (right) resilient tubular steel cantilever chair designed by Mies van der Rohe, 1926. Next: (right) first tubular metal chair designed by Marcel Breuer, 1925; (left) another Breuer design, 1928. Third: revolving armchair and reclining chair designed by Le Corbusier, Pierre Jeanneret and Charlotte Perriand, 1927. Above: (left) adjustable lounge chair designed by Ilmari Tapiovasra, 1949; (right) molded plywood chair designed by Joe Adkinson, 1952

REQUIRED READING

(*Continued from page 48*)

with a description of the ancient Indus Valley and Vedic civilizations and their heritage, which is then followed by the story of Hindu and Buddhist architecture, painting and sculpture from circa 300 B.C. to the 18th century. The final five chapters describe Indian art in Ceylon and the surrounding South-East Asian countries.

The numerous illustrations are excellent in quality and size, and consist of both photographs and line drawings.

The author, Dr. Benjamin Rowland, Professor of Fine Arts at Harvard, has taught Oriental art in that university since 1933 and is also recognized as a water-colorist of some note. In this volume he displays both sound scholarship and a knack for interesting the reader. His book makes an auspicious beginning for an important series.

PAINTING IN BRITAIN

Painting in Britain 1530 to 1790. By Ellis Waterhouse. The Pelican History of Art. Penguin Books (Baltimore, Md.) 1953. 7½ by 10½ in. 270 pp. text, 192 pp. plates

IN KEEPING with the high aims of the Pelican History of Art, this new volume on the history of Painting in Britain 1530–1790 provides an ideal book for both research and enjoyment. Its comprehensive study includes many paintings from the great national gallery of Britain, namely, her private homes. As most of Britain's paintings from before the 19th century are still in their original settings from royal palaces to country manor houses, these are rarely seen by the public unless the paintings are on loan to an exhibition.

There are many works of foreign-born painters such as Holbein and van Dyke, as well as British artists painting in a period of intense historical interest. Starting with painting under the Tudors — Henry VIII in particular — exemplified by Holbein and his generation, the reader is engrossed in a wealth of material continuing through Gainsborough and the Regency period.

Under Holbein began the real start of portrait painting; prior to that there is no known British portrait (aside from a few miniatures in books) which can be supposed to have been taken from life, although there are records of a few portraits done under Henry VII by Flemish painters upon one of those matrimonial occasions between sovereigns which were the chief means of familiarizing one nation with the portrait art of another.

Mr. Waterhouse is a most capable

(*Continued on page 358*)

(*Continued from page 354*)

writer who combines an extremely avid interest in his subject with the ability to impart his enthusiasm to readers. This is no dry tome to be put away on the library shelf, but a book to be read and enjoyed. It fills a definite need for an informative book in one volume with half-tones in very clear printing and in good size — no plate is less than half a page. To both artist and layman this will prove a worthwhile journey back to the days of pre-Regency and Regency times.

PRECAST CONCRETE CONSTRUCTION

Manual on Precast Concrete Construction. By F. Thomas Collins. 1953. 9 by 11½ in. 71 pp., illus.

PRECAST concrete, especially of the tilt-up variety, has become very popular in recent years due to the economies realized in labor and form work. And while there have been numerous articles published in the trade press on the design and construction techniques, there has not been a really comprehensive treatment of the whole construction process in one volume. This book, therefore, with its detailed explanations accompanied by lucid spot sketches should have a wide appeal.

Roger H. Corbetta, of Corbetta Construction Company, Inc., one of the country's leading contractors in concrete, calls this privately published manual "one of the greatest boosts for precast concrete I have ever read."

The author first takes up briefly the history of precast concrete construction, present practices and patents. He next treats casting surfaces and molds, and the use of bond-breaking materials. This is followed by a discussion of how to paint precast concrete surfaces and what type of paints can be used. Then an actual precast structure is used to show how the construction schedule and field layout might be set up.

A large portion of the manual is devoted to different kinds of forms for wall panels; placement of windows and doors; forms for canopies and structural frame components; and forms for poured joints.

Of especial interest is the chapter in which various methods of joining precast wall panels to floors, to roofs and to each other are illustrated. Also noteworthy is a chapter giving fairly comprehensive treatment of erection methods which includes a discussion of lifting equipment, rigging procedure and bracing. Another on panel fabrication,

(*Continued on page 362*)

(Continued from page 358)

discusses reinforcement, and includes a few paragraphs on prestressing.

ENGINEERING DRAWING

Engineering Drawing. By Frank Zozzora. McGraw-Hill Book Company, Inc. (330 W. 42nd St., New York 36, N. Y.) 1953. 8¾ by 11¼ in. 369 pp., illus.

HERE is a text which its author, Professor Frank Zozzora of the University of Delaware, presents as a new approach to Engineering Drawing. Basing his claim on its illustrations, Professor Zozzora has placed the emphasis of the book on the actual technique of illustrating methods — offering an unusual number of details accompanied by step-by-step instructions for each subject.

The book, designed for the student, teacher and practicing engineer, will be especially valuable in university courses of one-semester, in technical schools where a text offering a simpler, more detailed coverage is desired, or for the engineer or draftsman wishing to brush up on the subject. The author, head of the University of Delaware's engineering drawing and descriptive geometry department, has selected and arranged the chapters and topics in a progressive sequence best adapted to study of the subject. Since no previous knowledge of drawings, mechanics or design is required other than that acquired in the text, the book also can be recommended for self-instruction.

Over 300 problems and 700 illustrations combine with the text to make this volume an outstanding addition to the field of engineering drawing.

OLD NEW YORK

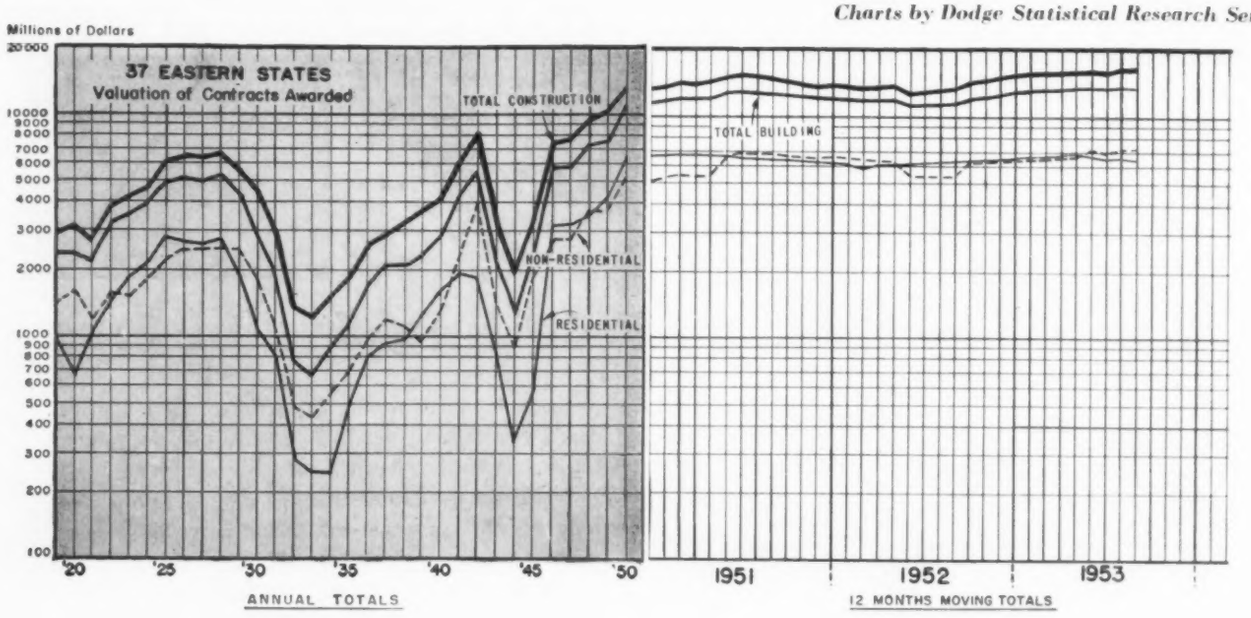
The Streets of Old New York. By J. Ernest Brierly. Hastings House, Publishers (41 E. 50th St., New York, N. Y.) 1953. 5½ by 8½ in. 127 pp., illus.

AMONG the books published during New York's tercentenary celebration is this small but interesting volume of black and white line drawings by J. Ernest Brierly.

Although there remain but three buildings dating back to the 150-year period between the founding of the city in 1626 and the American Revolution in 1776, the early streets are still here — and these are the basis of Brierly's book. On them he has sketched early homes and churches, public buildings and taverns, from Bowling Green of the early 17th Century to the Grand Concourse of the early 19th, accompanying each with a brief historical description.

CURRENT TRENDS IN CONSTRUCTION

Charts by Dodge Statistical Research Service



HIGH LEVELS CONTINUE

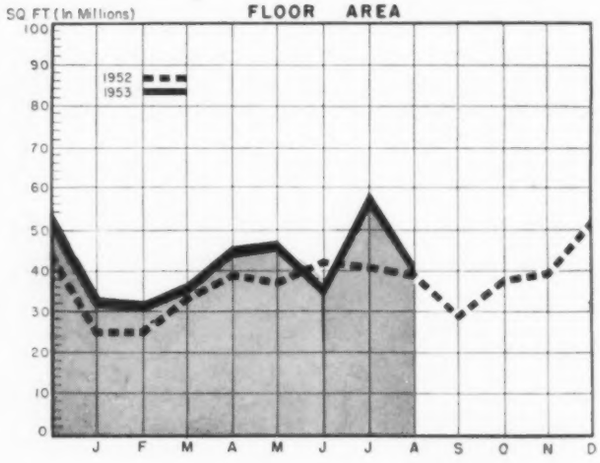
Contract awards reported by the F. W. Dodge Corporation were continuing at high levels through August, with construction totals for the first eight months running about four per cent ahead of last year. The slight downward turn indicated in June was followed by a sharp contra-seasonal upturn in July and a continuing high level in August, although moderately down from the preceding month.

Nonresidential building, paced by commercial work, continued the vigorous volume of recent months — indicating the carrying out of plans earlier held in check. Nonresidential contracts in August were up five per cent over last year and the total for the first eight months was 15 per cent ahead. There were sharp increases in Texas and New England.

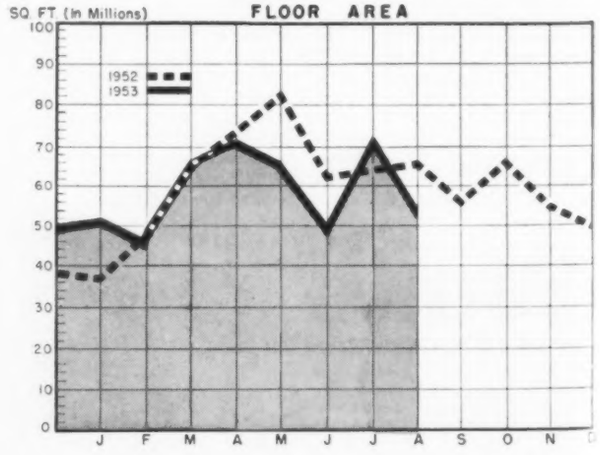
Residential building, however, turned down in August: contracts were 19 per cent under last year. The eight months' total was $4,419,463,000, as compared with $4,579,711,000 in 1952. The August declines were sharpest in the New York Metropolitan area and in Middle-Atlantic states.

The Dodge construction contract totals for the first eight months (37 states) was $11,115,588,000 as compared with $10,708,588,000 in 1952.

NONRESIDENTIAL BUILDING (37 EASTERN STATES)



RESIDENTIAL BUILDING (37 EASTERN STATES)



STORE BUILDINGS 1947–1953

Contracts Awarded—Millions of Dollars (37 Eastern States)

Year	Annual Total	Monthly Average	Year	Annual Total	Monthly Average
1947	356	30	1950	544	45
1948	484	40	1951	365	30
1949	386	32	1952	355	30

Monthly Totals

1952				1953			
Jan.	22	July	33	Jan.	35	July	72
Feb.	18	Aug.	29	Feb.	36	Aug.	47
Mar.	28	Sept.	38	Mar.	43		
Apr.	30	Oct.	26	Apr.	50		
May	28	Nov.	34	May	62		
June	23	Dec.	45	June	43		